At Sea Observations, First Half
General Summary SIC 9

The first half of SIC9 can be divided into three sections; the nine days between Oahu and Howland Island via Johnston Atoll, the five days within 100 miles of Howland and Baker Islands, and the eight days in the Phoenix Islands and on the way to American Samoa.

Sooty Terns dominated the first section. There were numerous flocks, many of which contained wintering southern hemisphere petrels. Fourteen oranged streamered birds of five species were seen, all but three within 50 miles of Johnston Atoll. The other three were between Johnston and Oahu.

Numbers were highest in the Howland-Baker area. This was the result both of a peak of migration of Sooty and/or Slender-billed Shearwaters and of large numbers of Sooty Terns feeding in the general area. The shearwater migration was of an intensity not previously encountered in the Central Pacific. For several hours on 16 September birds were streaming past the ship in excess of 150 birds per minute, resulting in an all day average of 450 birds per mile. The migration peak occurred between 14 and 16 September, and again on 19 and 20 September. During these days a majority of birds observed clearly had dark underwings, while on days before and after the peak birds with silver underwings predominated. The feeding flocks encountered in this area were large, but feeding was erratic so that most flocks were continually dispersing and reforming elsewhere, preventing entry into the flocks for collecting purposes.

The third section was characterized by fewer birds than were recorded in the first two sections. Procellariids were very low in numbers. Flocks were less frequently observed, and contained fewer birds. One immense mixed feeding flock was encountered two miles from Enderbury Island which contained 4000 birds feeding over an area of many acres. It was composed mainly of Sooty and Hawaiian Noddy Terns, frigates, and all three species of boobies.

At least 36 species of seabirds were recorded on the cruise. Forty-two birds of nine species were collected. Unusual sightings inculuded one Pale-footed Shearwater, one Dark-rumped Petrel, one Mottled Petrel, and 19 Jaegers and a Skua.

Warren B. King

Warren B. King
Research Asst.
Pacific Project

Species Account SIC 9 First Half

Puffinus pacificus

This was the most plentiful Procellariiform excepting Sooty and Slender-billed Shearwaters. It was seen on al/ days but one. Maximum numbers occurred the second day south of Oahu and between Howland Island and McKean Island. Dark phase birds predominated after the third day, south of 17°north. Five orange streamered birds were observed, all withing 50 miles of Johnston Atoll. Although this species has not been recorded from Enderbury Island, 33 were seen within ten miles of the island, actively feeding with a large flock. Numbers around Howland and Baker Islands were comparable with those of most other areas. Nine specimens were taken.

Puffinus nativitatus

Seven individuals recorded, four at 5°North, none near Howland or Baker Islands.

Puffinus lherminieri

Thirteen individuals were seen, all south of the equator.

Puffinus puffinus newelli

One of the 44 birds seen was within loo miles of Howland and Baker Islands. The rest were just south of Oahu.

Puffinus griseus/tenuirostris

The peak southward migration of at least one of these similar forms occurred during the week from 13 to 21 September. At its peak birds were passing the ship at a rate often in excess of 150 birds per minute. A total of 43,594 birds were recorded. Largest concentrations were found in close proximity to Howland and Baker Islands. During the peak period, many of the birds had dark underwings, but before and after the week of peak numbers most birds had silver underwings. This statement refers only to those birds which came close enough to the ship to permit clear views of the birds' underwings. All were heading SE, S, or SW. Eight were collected, all of which had empty stomachs, very heavy fat, and enlarged gonads.

Puffinus carneipes

One bird was observed on 15 September, one day north of Howland Island.

Pterodroma phaeopygia

One individual was seen just south of Oahu.

Pterodroma e. externa

All 96 of this form were seen north of 5°North. An additional 18 birds could not be identified to subspecies. Four specimens were taken.

Pterodroma externa cervicalis

All 21 birds of this form were seen north of 5° North. One was collected.

Pterodroma hypoleuca nigripennis
Of 125 birds of this species, at least 80 were of this form. The rest were not seen clearly enough to permit identification past the species level. Only 5 were seen near Howland and Baker Islands; most were north of 5° North.

Pterodroma leucoptera ?
Seven birds of this or a similar appearing species were seen, all south of the equator. In addition, six were seen within a short period of time at 5° North.

Pterodroma alba
Two were seen, one near Howland Island.

Pterodroma neglecta
Three were seen between Johnston Atoll and Howland Island.

Pterodroma inexpectata
One good sighting was made on 4 October. The bird was heading south with four Sooty Shearwaters.

Bulweria bulwerii
Most of the 107 birds seen were just south of Oahu, although a few individuals were seen nearly every day, including in the Howland and Baker Islands area.

Oceanodroma leucorhoa?
Seven individuals perhaps of this species were seen just south of Oahu, and two more were seen within 100 miles of Howland Island. The possibility of confusing this with similar species is strong.

Nesofregatta albigularis
Four were seen between Howland Island and McKean Island.

Phaethon rubricauda
A total of 27 were seen, 19 south of Oahu, 5 near Howland and Baker Islands, and three north of Samoa.

Phaethon lepturus
The 25 birds of this species were distributed rather like the preceeding species. A feeding flock of six was seen near Samoa.

Sula dactylatra
Out of 462 birds recorded, 400 were in a large feeding flock just south of Enderbury Island, and 12 were within 50 miles of Howland and Baker Islands. Three were collected, one of which was banded.

Sula leucogaster
Out of 79 birds seen, 48 were just south of Enderbury Island, and 12 were within 50 miles of Howland and Baker Islands. Two orange streamered birds were seen at the entrance to Johnston Atoll.

Sula sula
The very large feeding flock near Enderbury Island contained 851 of the 921 birds recorded. Only five were seen near Howland and Baker Islands. One was collected. Two orange streamered birds were seen within 50 miles of Johnston Atoll.

Fregata minor
Twenty-six birds were seen, all but one of which were north of 10° North.

Fregata ariel
Out of 700 birds, 335 were observed over Hull Island, and 360 were in the large flock near Enderbury Island. Sixty-seven of this or the preceeding species were within 100 miles of Howland and Baker Islands.

Pluvialis dominica
Sixty-seven of this species were seen, including a flock of 21. All were south of 5°North. Two were collected.

Arenaria interpres
Eighteen individuals were seen, all south of 5°North. Two were collected.

Numenius tahitiensis
Six were seen within 100 miles of Howland and Baker Islands.

Heteroscelus incanum
Two were seen, one of which was within 100 miles of Howland and Baker Islands.

Sterna fuscata
A total of 11,846 were recorded. Greatest concentrations were found in the area within 100 miles of Howland and Baker Islands. Three orange streamered adults were seen between Johnston Atoll and Oahu. Nine birds were collected.

Sterna lunata
Most of the 44 birds were seen near the Phoenix Islands.

Anous stolidus
Most of the 258 Noddies were near land, although several were seen more than 200 miles from nearest land. Three were collected. One was seen within 50 miles of Johnston Atoll, wearing an orange streamer.

Anous minutus

One thousand of the 1113 birds were in a large flock near Enderbury Island. All were south of 2° South.

Procelsterna cerulea

Twenty-one of the 33 seen were in the Phoenix group; the other 12 were within 10 miles of Samoa.

Gygis alba

Although a few birds were seen most days of the cruise, large flocks totalling 234 of the 366 birds seen were within 10 miles of Tutuila.

Stercorarius pomarinus

Five were seen, three of which were near, or a day north of, Howland and Baker Islands. Two were seen at 4° South.

Stercorarius longicaudus

Ten were seen, half of which were within 100 miles of Howland and Baker Islands. Three other jaegers were not identified to species.

Catharacta skua

One bird was seen quite clearly on 5 October, 250 miles north of Tutuila.

TABLE I.

Date	Miles	Total Birds	Birds Per Mile	Sightings	Flocks	Birds in Flocks
7 Sep 65	82	556	6.78	217	13	273
8	129	2219	17.20	176	8	1995
9	130	698	5.36	60	7	632
10	40	274	6.85	55	3	200
11	115	364	3.16	44	6	321
12	115	900	7.82	99	21	791
13	83	510	6.14	158	27	293
14	91	8984	98.72	7	0	0
15	103	5412	52.54	53	2	94
16	37	16,668	450.48	48	15	1812
17	113	762	6.74	72	7	664
18	121	1271	10.50	75	13	1117
19	106	3218	30.35	62	14	1934
20	100	13,851	138.51	53	15	1728
21	37	373	10.08	47	3	115
23	43	83	1.93	37	0	0
29	97	1360	14.02	66	1	78
1 Oct	40	142	3.55	76	3	15
3	45	3948	87.73	21	2	3918
4	108	185	1.71	24	2	32
5	119	231	1.94	21	6	160

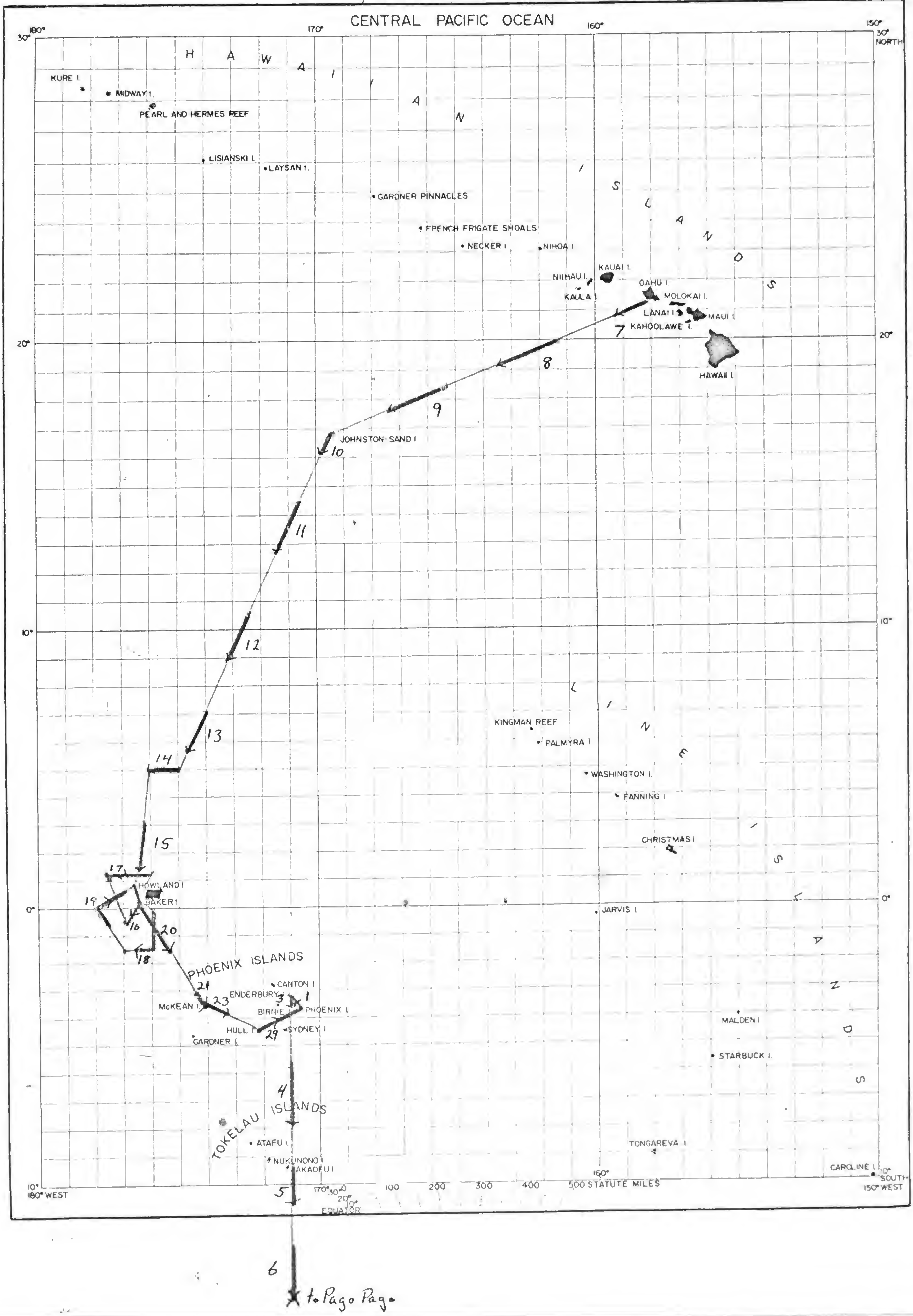
Table II SIC 9 First Half

1965 Date	Wedge-tailed Shearwater	Sooty/Slender-billed Shearwaters	Other Procellariids	Tropicbirds	Boobies
7 Sept.	88	21	221	5	12
8	833	38	154	12	00
9	155	1	38	13	0
10	83	0	10	0	18
11	62	9	39	2	0
12	51	1233	211	1	5
13	54	291	71	0	1
14	27	8,933	18	0	0
15	51	15,253	19	1	0
16	22	14,985	2	1	30
17	31	7	10	3	28
18	15	94	11	2	4
19	107	1,220	2	4	8
20	270	12,078	28	0	2
21	4	178	10	0	4
23	2	33	4	0	5
29	18	12	14	0	5
1 Oct.	20	21	27	0	9
3	33	1	3	0	1299
4	4	123	13	1	0
5	0	50	15	1	2
6	5	7	13	10	34
TOTAL	1,935	43,478	933	57	1,466

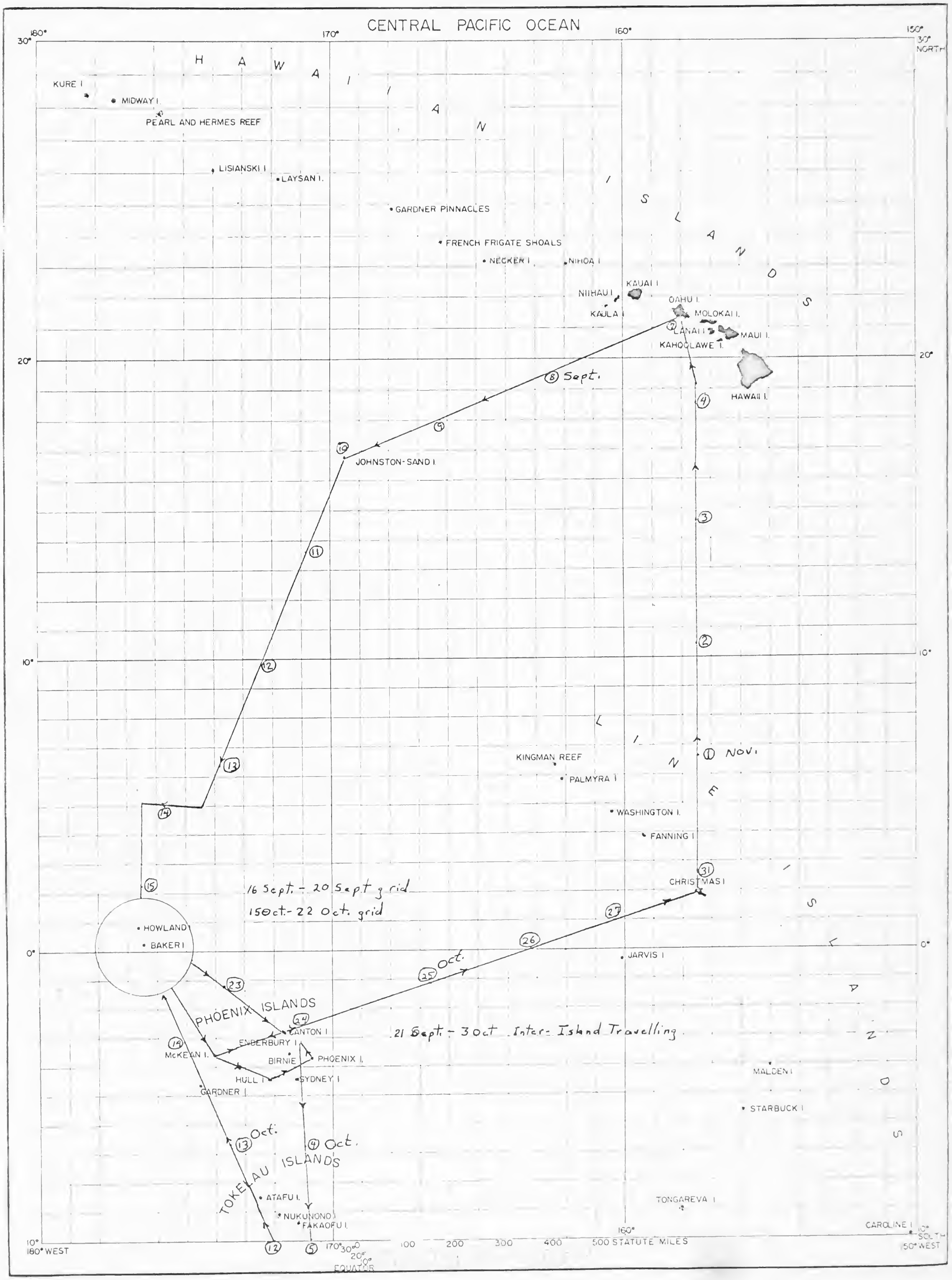
Table II (cont.) SIC 9 First Half

1965 Date	Frigates	Shorebirds	Jaegers	Sooty Terns	Other Terns
7 Sept.	5	0	0	21	133
8	4	0	0	1,162	13
9	0	0	2	486	5
10	15	0	0	138	9
11	0	0	0	247	5
12	1	0	0	507	0
13	0	1	0	80	12
14	1	1	2	2	0
15	1	4	3	79	2
16	35	7	1	1,584	1
17	3	4	2	663	11
18	2	13	3	1,119	8
19	2	9	3	1,800	63
20	25	12	0	1,435	1
21	1	1	0	144	31
23	1	0	0	7	31
29	338	8	0	953	12
1 Oct.	2	2	0	59	10
3	360	2	2	1,223	1,025
4	0	2	0	36	5
5	0	4	0	24	134
6	1	24	0	77	351
TOTAL	797	94	18	11,846	1,862

SIC-9 Sep-Oct 1965, first half


CENTRAL PACIFIC OCEAN
180°
170°
160°
150°
30°
30° NORTH
20°
10°
0°
10° SOUTH
10° 180° WEST
150° WEST
H A W A I I A N I S L A N D S
KURE I.
MIDWAY I.
PEARL AND HERMES REEF
LISIANSKI I.
LAYSAN I.
GARDNER PINNACLES
FRENCH FRIGATE SHOALS
NECKER I.
NIHOA I.
NIIHAU I.
KAUAI I.
KAULA I.
OAHU I.
MOLOKAI I.
LANAI I.
MAUI I.
KAHOOLAWE I.
HAWAII I.
JOHNSTON-SAND I.
L I N E I S L A N D S
KINGMAN REEF
PALMYRA I.
WASHINGTON I.
FANNING I.
CHRISTMAS I.
JARVIS I.
MALDEN I.
STARBUCK I.
TONGAREVA I.
CAROLINE I.
HOWLAND I.
BAKER I.
PHOENIX ISLANDS
CANTON I.
ENDERBURY I.
McKEAN I.
BIRNIE I.
PHOENIX I.
HULL I.
SYDNEY I.
GARDNER I.
TOKELAU ISLANDS
ATAFU I.
NUKUNONO I.
FAKAOFU I.
170° 30' 20' 10'
EQUATOR
0 100 200 300 400 500 STATUTE MILES
160°
1
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
23
29
to Pago Pago

SIC 9 cruise track 7 September- 5 November 1965.


CENTRAL PACIFIC OCEAN
180°
170°
160°
150°
30°
30° NORTH
20°
10°
0°
10° 180° WEST
10° SOUTH 150° WEST
H A W A I I A N I S L A N D S
KURE I
MIDWAY I.
PEARL AND HERMES REEF
LISIANSKI I
LAYSAN I.
GARDNER PINNACLES
FRENCH FRIGATE SHOALS
NECKER I
NIHOA I
NIIHAU I
KAUAI I
KAULA I
OAHU I.
MOLOKAI I.
LANAI I
MAUI I.
KAHOOLAWE I.
HAWAII I.
⑧ Sept.
⑨
⑩
JOHNSTON-SAND I
⑪
⑫
⑬
⑭
⑮
⑦
④
③
②
① Nov.
L I N E I S L A N D S
KINGMAN REEF
PALMYRA I
WASHINGTON I.
FANNING I
㉛
CHRISTMAS I
16 Sept. - 20 Sept grid
15 Oct. - 22 Oct. grid
HOWLAND
BAKER I
JARVIS I
㉗
㉖
㉕ Oct.
㉓
㉔
PHOENIX ISLANDS
CANTON I
21 Sept. - 30 Oct Inter-Island Travelling
⑲
McKEAN I.
ENDERBURY I
BIRNIE
PHOENIX I.
HULL I
SYDNEY I
GARDNER I
MALDEN I
STARBUCK I
⑬ Oct.
④ Oct.
TOKELAU ISLANDS
ATAFU I.
NUKUNONO I
FAKAOFU I.
TONGAREVA I
CAROLINE I
⑫
⑤
170°
30°
20°
10°
0
EQUATOR
100
200
300
400
500 STATUTE MILES

5 Grid Sept 65

these date taken from orig. cruise track and corrected from daily obs. sheets to actual periods of obs.

RSC 5 July 67

Date	AREA	arr	Dept	Hrs	Tenths of Hrs	Miles
15 Sept	O 4	0625	0637	0	2	2
15 Sept	O 4	0637	1220	5	7	47
15 Sept	O 3	1221	1420	2	0	20
15 Sept	C 3	1421	1826	4	1	32
15 Sept	C 2	1527	~~2100~~ 1846	~~2~~ 0	~~6~~ 3	~~28~~ 3
~~15 Sept~~ no obs	~~G 2~~	~~2101~~	~~2106~~	~~0~~	~~1~~	~~1~~
~~15 Sept~~ no obs	~~G 1~~	~~2106~~	~~2400~~	~~2~~	~~9~~	~~12~~
16 Sept	G 1	~~0001~~ 0745	~~1440~~ 1152	~~14~~ 4	~~7~~ 1	~~52~~ 37
16 Sept	G 1	1300	1440	1	7	15
16 Sept	K 2	1441	1846	4	1	31
16 Sept	J 3	1847	1906	0	3	3
16 Sept	J 2	1907	~~2220~~ 2200	~~3~~ 2	~~2~~ 9	~~25~~ 22
~~16 Sept~~ no obs	~~F 2~~	~~2221~~	~~2400~~	~~1~~	~~7~~	~~13~~
~~17 Sept~~ no obs	~~F 2~~	~~0001~~	~~0455~~	~~4~~	~~9~~	~~39~~
~~17 Sept~~ no obs	~~F 3~~	~~0456~~	~~0610~~	~~1~~	~~2~~	~~12~~
17 Sept	B 3	~~0644~~ 0630	1211	~~6~~ 5	7	55
17 Sept	B 2	1212	1242	0	5	5
17 Sept	C 2	1243	2044	8	0	75
17 Sept	G 2	2045	2145	1	0	9
17 Sept	G 1	2146	~~2400~~ 2200	0	2	~~22~~ 3
~~18 Sept~~ no obs	~~G 1~~	~~0001~~	~~0506~~	~~5~~	~~1~~	~~34~~
~~18 Sept~~ no obs	~~G 2~~	~~0507~~	~~0608~~	~~1~~	~~0~~	~~8~~
18 Sept	K 2	~~0609~~ 0625	0730	1	~~4~~ 1	12
18 Sept	L 2	0731	0851	1	3	14
18 Sept	L 3	0852	1315	4	4	46
18 Sept	P 3	1316	1500	3	7	17

Sept 65 S Grid.

RSC
July 67

Date	AREA	Arr	Dept	Hrs	Tenths Hrs	Miles
18 Sept	P 4	1501	1600	1	0	10
18 Sept	R 4	1601	2200 ~~2220~~	6	30	56 ~~61~~
~~18 Sept~~	~~N 4~~ nothing	~~2221~~	~~2321~~	~~1~~	~~0~~	~~7~~
~~18 Sept~~	~~N 3~~ [illegible]	~~2322~~	~~2400~~	~~0~~	~~6~~	~~6~~
~~19 Sept~~	~~N 3~~	nothing ~~0001~~	~~0200~~	~~2~~	~~0~~	~~16~~
19 Sept	J 3	0638 ~~0201~~	1102	4 ~~9~~	4 ~~0~~	35 ~~73~~
19 Sept	E 3	1103	1203	1	0	7
19 Sept	F 3	1204	1450	2	8	32
19 Sept	F 2	1451	1851	4	0	31
19 Sept	F 1	1852	1920	0	5	4
19 Sept	G 1	1921	2000 ~~2400~~	0 ~~4~~	7 ~~4~~	~~27~~ 7
20 Sept	G 1	0705 ~~[illegible]~~	0830	1 ~~8~~	4 ~~5~~	10 ~~[illegible]~~
20 Sept	G 2	0831	0842	0	2	2
20 Sept	K 2	0843	1143	3	0	29
20 Sept	K 3	1144	1300	1	2	13
20 Sept	L 3	1301	1550	2	8	28
20 Sept	P 3	1551	1651	1	0	10
20 Sept	P 4	1652	1840 ~~[illegible]~~	~~6~~ 1	~~5~~ 8	17 ~~[illegible]~~
~~20 Sept~~	end Grid.					

Octo 1965

This data taken from orig. Cruise Track + corrected from ~~actual~~ Daily Obs. sheets for obs. periods.

ESC. June 67

Date	AREA	Arr	Dept	Hrs ~~Min~~	Min ~~Hrs~~	Miles
~~14 oct~~	~~P-4~~	~~2235~~	~~2400~~	~~1~~	~~25~~	~~17~~
~~15 oct~~	~~P-4~~	~~0001~~ ~~2400~~	~~0300~~	~~3~~	~~0~~	~~32~~
~~15 oct~~	~~P-3~~	~~0301~~	~~0454~~	~~1~~	~~45~~ ~~54~~	~~14~~
	L 3	Begin 0605	0700	0	55	9
~~13 Oct~~	~~L-3~~	Grid ~~0455~~	~~0700~~	~~2~~	~~5~~	~~21~~
15 Oct	K-3	0701	0845	1	45	17
15 Oct	K-2	0646	1200	3	14	28
15 oct	G-2	1201	1215	0	15	~~4~~ 2
15 oct	G-1	1216	1400	1	44	12
15 oct	G-1	1450 ~~1500~~	1805 ~~1900~~	~~4~~ 3	15 ~~0~~	30 ~~37~~
15 oct	G-1	1900	2245	3	45	13
15 oct	G-2	2246	2252	0	6	1
15 oct	C-2	2253	2400	1	7	5
16 oct	C-2	0001	0955	9	54	54
16 oct	G-2	0956	1120	1	24	16
16 Oct	H-2	1121	1715	7	54	49
16 oct	L-2	1716	2100	3	44	21
16 oct	K-2	2101	2400	3	0	13
17 oct	K-2	0001	0700	7	0	34
17 oct	G-1	0701	1600	9	0	48
17 oct	G-2	1601	1612	0	12	2
17 oct	F-2	1613	1750	1	37	14
17 oct	B-2	1751	2100	3	9	17
17 oct	B-3	2101	2400	3	0	12
18 oct	B-3	0001	0633	6	38	35

oct
1965

Date	AREA	ARR	DEPT	Hrs	Min	Miles
18 oct	0-3	0634	0700	0	~~30~~ 26	4
18 oct	0-4	0701	1220	5	20	41
18 oct	A-4	1221	1600	3	39	36
18 oct	A-3	1601	1900	3	0	24
18 oct	E-3	1901	2400	5	0	16
19 oct	E-3	0001	08~~30~~ 45	8	~~30~~ 45	51
19 oct	F-3	0846	1200	3	14	31
19 oct	F-2	1201	1830	6	30	40
19 oct	J-2	1831	1905	0	35	6
19 oct	J-3	1906	2400	4	54	25
20 oct	J-3	0001	0545	5	45	27
20 oct	J-4	0546	0720	1	34	7
20 oct	J-3	0721	1110	3	50	52
20 oct	K-3	1111	1720	6	9	57
20 oct	K-2	1721	2130	4	10	31
20 oct	G-1	2131	~~2400~~ 2300	~~2~~ 1	30	8
21 oct	G-1	~~0935~~ 0600	1325	~~5~~ 7	~~30~~ 25	37
22 oct	G-1	1000	1500	5	0	42
22 oct	G-2	1501	1540	0	40	5
22 oct	H-2	1541	1825	2	45	26
22 oct	H-3	1826	1920	0	54	11
22 oct	L-3	1921	2320	4	0	35
22 oct	0-3	2321	2400 End grid	0	40	6
~~23 oct~~	~~0-4~~	~~0001~~	~~0600~~	~~6~~	~~0~~	~~60~~

BIRD OBSERVATIONS OAHU TO BAKER ISLAND MAY 1965

Introduction

During the period 30 April to 6 May 1965 I was aboard the USS George Eastman (YAG 39) en route to Baker Island from Pearl Harbor Hawaii. The following is a report of the avifauna I observed as a representative of Smithsonian Institution, Division of Birds.

Species Account

No observations were made in the immediate vicinity of the two islands visited since the observations ended the night before arrival in both cases. Nineteen different species were observed. The total number observed for each species is given in parenthesis after the name.

Black-footed Albatross: (2)

Only two birds of this species were observed, the first day off Oahu.

Wedget ail Shearwater: (185)

This species was most numerous of all those seen. More than a hundred light phase b irds were observed the first day off Oahu. Their numbers dropped to 1 or 2 a day until south of 10°N., where nearly all were the darker phase.

Sooty Shearwater: (7)

Seven b irds of this species were identified on two separate days during the trip. Six were seen at about 3°N. Some of the unidentified "shearwater petrels" seen on the voyage may have been this species.

Newell's Shearwater: (1)

One was seen on 4 May.

Juan Fernandez Petrel: (3)

Three of these medium size petrels were observed, two of them were south of 5° and one was north of 17°N. Unidentified "shearwater petrels" probably account for the gap.

Cook's Petrel: (1)

Only one bird was identified on 4 May. Other Pterodroma sp. may have been this species.

Bulwer's Petrel: (11)

Eleven birds identified as this species were seen during the trip. All were between 15° and 5°N., generally at the greatest distance from land.

Oahu to Baker Island May 1965 continued.....

Leeche's Petrel: (10)

Ten birds were seen all south of 15°N.

White-tailed Tropicbird: (5)

Five of this species were seen, all north of 10°N.

Red-tailed Tropicbird: (4)

Four birds of this species were observed, all south of 10°N.

Blue-faced Booby: (2)

Two immature birds were seen just north of 5°N while still more than 300 miles NE of Hawland Island.

Red-footed Booby: (2)

The only two seen were the first day off Oahu.

Brown Booby: (1)

One bird was seen north of 5°N. and was observed to have a band on the right leg.

Frigatebird sp.: (13)

One Great Frigatebird was seen the first day off Oahu and twelve other unidendified Frigatebirds were seen about 150 miles NE of Hawland.

Sooty Tern: (103)

Of the birds identified as this species three-quarters were seen south of 7°N.

Fairy Tern: (1)

Only one bird of this species was seen on 4 May.

Common Noddy: (32)

All of these birds were seen the first day out.

Wandering Tattler: (1)

One bird was seen on 6 May the day before we sighted Hawland Island.

Jeager sp.: (1)

One bird that was probably of this group was seenon 6 May. It was dark with a short neck and long tail. It appeared to have a hooked bill and was lighter about the neck and rump.

Observation time each day averaged about five hours. This time was usually split up between the early morning hours and the late afternoon.

Itinerary

30 April 1965	1200 hrs.	LV. Pearl Harbor aboard USS Georg e EAstman
7 May	0748 hrs.	sighted Hawland Island
	1500 hrs.	sighted Baker Island
8 May	1100 hrs.	Landed on Baker Island
18 May	1100 hrs.	Left Baker Island and went aboard USS Arikara and commemced SIC #8 Cruise.

Respectifully submitted,
Robert S. Standen
Robert S. Standen
Technical Assistant
8 July 1965

SOUTHERN ISLAND CRUISE No. 9 September - October 1965

CRUISE PLAN

I. Cruise Period: 7 September - 5 November 1965

II. Cruise Vessel: U.S.N.S. SHEARWATER (T-AG 177)

III. Personnel:

Crossin (Biologist in charge of pelagic work); Fleet (Biologist in charge of island surveys); Amerman; Clapp; Harrington; Husted, Kepler; Tordoff; Woodward.

IV. Objectives

A. Primary Objectives

1. To conduct pelagic observations in the Howland-Baker area.
2. To survey Howland and Baker Islands and to study bird activity on, between and around these islands.
3. To conduct island surveys and mass band Sooty Terns on selected islands.

B. Secondary objectives

As listed under specific areas (see Missions and Assignments).

V. Itinerary

7 September - depart Honolulu about 0900
14 September - arrive Howland, put party ashore
14 September - arrive Baker - put party ashore
15 September - begin grid work
19 September - finish grid work
20 September - board parties, Howland, Baker and depart for McKean Is.(AM)
21 September - arrive McKean Island (PM), put party ashore
25 September - depart McKean Is. (AM), arrive Hull Is., put party ashore
29 September - depart Hull Is. (AM), arrive Phoenix Is., put party ashore
3 October - depart Phoenix Is. (AM) - depart for Pago Pago
7 October - arrive Pago Pago
11 October - depart Pago Pago
15 October - arrive Howland, Baker, put party ashore
17 October - begin grid work
21 October - finish grid work
22 October - board parties, Howland, Baker, depart for Christmas Is.
27 October - arrive Christmas Is. - put party ashore
31 October - (early am) board party, depart for Honolulu
5 November - arrive Honolulu

VI. Missions and assignments

A. Leadership:

Due to the mixed objectives of this and similar succeeding cruises, leadership and responsibilities will be divided. Crossin will be responsible for all pelagic work and will be in charge whenever the ship is under way. All personnel will share diurnal observations between Oahu and Baker, between Christmas and Oahu and on other tracks as determined by Crossin and Fleet. Fleet will be responsible for all island survey work. On McKean, Phoenix, Hull and Christmas Islands all personnel will undertake island work. Crossin will supervise part of the party according to assignments made by Fleet. Fleet and Crossin will work together with the Commanding Officer as necessary.

B. Pelagic studies:

1. Top priority:

   a. undertake pelagic observations inside the study area. Collect specimens whenever possible. Use routine procedures for observing and recording data on birds and pelagic mammals. Collect tagged Howland Island birds (blue tags) when observed in excess of 50 miles of the island. Collect routine data and sera for all specimens. Prepare as many specimens as possible but do not let this interfere with observation time. Crossin will assign duty watches. At least three men will be assigned to the Grid study but rotations may be made (at the discretion of Crossin) so that all men have an opportunity to visit the islands. BTs will be taken at four hour intervals. Especially note any areas of high bird activity.

   b. make careful note of bird activity within the Grid. Especially note direction of flight and gather any possible information concerning bird activity or movement in the vicinity of the islands.

2. Secondary priorities:

   a. maintain continuous daylight to dark observations whenever the ship is underway (this includes movements between islands.) Maintain periodic nocturnal observations. Time is limited so collect only rare or unexpected species outside the major study area. If time is available Crossin may elect to increase collecting at sea. The cruise tracks between all islands will be considered as transects and will be duplicated on future trips so record data carefully.

C. Island Survey:

1. A number of activities are top priority on all islands to be visited. These include the following.

   a. Survey of all terrestrial vertebrates especially birds and determination of reproductive status of all breeding species.

   b. banding and recovery of a maximum number of birds (see specific islands for priorities). Obtain and record returns and note all tagged or marked birds (record color, type and position of tag or mark). Tag and mark birds only on Howland.

   c. collect sera from each island as noted under specific island headings. Sample in proportion to the numbers of each species present.

   d. check for presence of tick populations and collect live ticks for return to mainland from at least one island preferably one of the last islands from which ticks are available.

   e. undertake maximum feasible Berlese sampling; also check carefully for mosquitoes or other blood-sucking arthropods.

2. Lower priority items include:

   a. collect biological specimens as determined by POBSP needs on a priority basis.

   b. photograph island habitats and check vegetation at permanent stake markers.

3. Specific Island activities:

   See attached sheet.

VII. Special aspects

See attached sheet

VIII. Reporting - three reports will be made.

A trip report (in two parts -pelagic work and island surveys) based on this cruise plan and which outlines work accomplished and details any departures from this cruise plan. This report will be prepared by Fleet and Crossin. A routine grid report in two parts (Grid; other pelagic work) prepared by Crossin, Amerman et. al. A routine island survey report prepared by Fleet and associates.

INFORMATION FROM SOUTHERN PELAGIC AREA VIA SHEARWATER MESSAGE

Birds in area from one day north of Johnston Island to one daylight.day south. Number lower last month. Predominate group September terns 66 percent (largely Sooty Terns).

Four cats seen on Baker. . in good condition; seven seen on Howland, good condition. Cannot be sampled without collecting.

Densities per linear mile: (excluding Sooty-Slender-billed Shearwaters)

a) area 5 N (expected to be rich)	0.5
b) between Howland and Baker	9.8
c) within about 50 miles of islands	14.4
d) from 50-100 miles from islands	12.9

Dominant group in each case terns (largely Sooty Terns).

Densities per linear mile including Sooty-Slender-billed Shearwaters:

a)	91.6
b)	202.4
c)	109.6
d)	16.9

High feeding flock concentrations 50-80 miles west of both islands, and southeast of first island, especially within 25 miles. ~~Flocks comprised mostly of Sooty Terns. Feeding erratic. No, repeat, no, Sooty Terns on either island. Sooty-Slender-billed Shearwater numbers up to 150 per minute.~~

(above is a compiled, corrected message not a verbatum copy).

178°
177°
176°
1°N
1°N
Howland I.
Baker I.
0°
0°
1°S
1°S
2°S
2°S
178°
177°
176°W
151
189
189
162
114
165
50
508
43
486
26
260
60
60
1077
28
76
150
78
30
15
50
10
80
16
302
8
251
210
63
76
75
37
152
174
37
176
205
80

SIC 9

PELAGIC TRACK * HOWLAND-BAKER AREA 16-19 September 1965

Red lines = diurnal track.
Red-circled numbers = size of bird flocks exclusive of Sooty-Slender-billed Shearwaters.
Uncircled numbers = hourly references for diurnal track.

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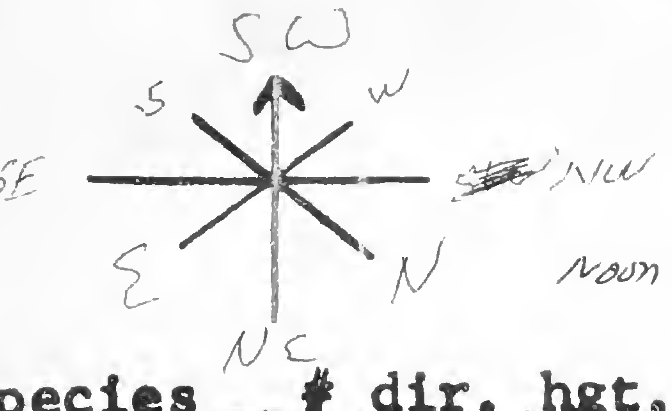

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

SIC9

DATE 7 Sep 65
Pg.# 1

Noon Position: 21°12'N ; 158°08'W

time	species	#	dir.	hgt.	remarks	loc.
1045	begin observations					
1045	Brown Booby	3			sitting on channel buoy 2ad., 1 imm	
1046	Brown Booby	1	E		adult - flushed	
1058	Brown Booby	1			Perched on Board adult	
1059	Common Noddy	2	E			
1114	Gr. Frigate	1	NE		Flying straight line, 100' up	
1118	Noddy Tern	1	SE		10' up	
1123	Redfoot Booby	2			Adult	
1130	Wedgetail	1	E		light	
1135	Noddy Tern	1	NW			
1136	Noddy Tern	1	SE			
1143	Wedgetail	1	SE		alternate sliding + flap	
1145	"	1	SE		very little flapping	
1146	"	1	SE			
1146	"	2	SE			
1147	"	1	SE			
1147	"	1	SE			
1150	"	1	SW			
1151	"	1	E			
1151	Frigate	2	↻			
1152	Wedgetail	1	SW			
1155	"	1	SE			
1157	Booby R.F	2	NW			
1200	Wedgetail	2	SE			
1201	"	1	SW			
1205	RF Booby	1	S			
1207	C noddy	2	NW			
1208	Wedgetail	1	W			
1208	"	1	E			
1208	"	1			Flushed off H2O	
1210	RTTB	3			sitting on H2O	
1210	Wedgetail	1	W			
1211	"	1	NE			
1215	"	1	SE			
1215	Newells	2	NW			
1215	Wedgetail	2	E			
1217	Common Noddy	1	~~N~~E			
1218	Wedgetail	1	NE			
1219	"	1	NW			
1222	"	1	N			
1222	WTTB	1	—			
1226					Rainsquall TO SW	

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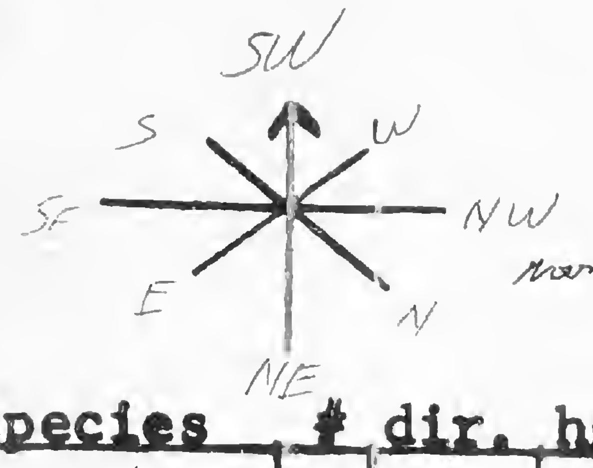
AT SEA DAILY LOG — E



Noon Pos. 21°12'N; 158°08'W

51C9
DATE 7 Sept 1965
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1228	wedgetail	~~2~~ 1	SE			
	1229	"	1	NE			
F	1232	Wedgetail	2			circling	
		shear-pet	12			sitting on H_2O	
		Noddy Tern	2				
	1234	wedgetail	1				
	1234	"	1			Flushed	
	1235	"	1	N			
	1236	Leaches	1	S			
	1238	Wedgetail	1	S			
	1238	"	1				
	1241	Leaches	1	SW		possibly same as 1236	
	1241	Newells	2	W			
	1244	Brown booby	1			sitting on log. Adult	
	1245	Com. Noddy	3			on H_2O	
	1245	"	1	W			
	1250	Wedgetail	1	NW			
	1310	Bulwer's	1	SW			
	1311	Wedgetail	1	SE			
	1312	Leach's Pet	1	SE			
	1313	Bulwers	1	W			
	1316	Com. Noddy	1	SW			
	1321	Sooty Shear or slenderbill	3	S		Flying very slowly parallel ~~even~~ with the water.	
F	1323	"	18	S			
	1325	Sooty Shear	4	S		light underwing	
F	1330	Noddy Tern	80	S		Flock, about 1/2 on H_2O	
		Wedgetail	10				
	1337	Sooty Shear	1	S			
	1338	" "	1	S			
	1338	Wedgetail	1	N			
	1341	Sooty shearw.	6	S		3 seen well enough to be definitely identified as Sooty S. Very little wind - birds flying in straight line 3 or 4 flaps/glide, varying at times.	
	1342	Frigatebird	2	Cr			
	1345	Sooty S.	1	S			
FF	1347	Birds	50±			too far to identify	
	1349	Leaches	1	SW			
	1349	Bulwers	1	NW			
	1350	Sooty Shear	2	S			
	1352	Newells	1	N			
	1355	Sooty S	3	S			
	1356	" "	3	S			
	1358	Newells	1	NE			
	1358	Sooty S.	1	S			
	1359	Sooty S.	1	S			
	1400	" "	1	S			
	1403	Bulwer's Pet	1	S			

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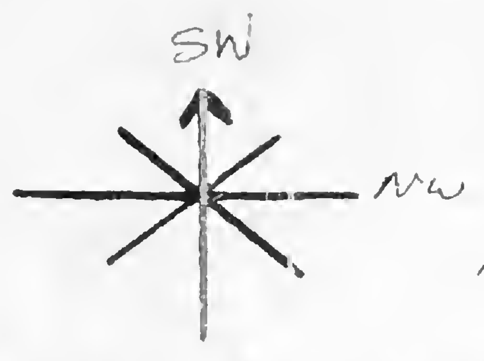
AT SEA DAILY LOG — E

SIC 9



Noon Position: 21°12'N; 158°08'W

DATE 7 September 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1405	wedgetail	1	N			
1408	Sooty tern	1	N			
1411	wedgetail	1	W			
1411	Newell's S	1	W			
1412	Wedgetail	1	SE			
1412	Bulwer's	1	NE			
1413	Leach's Pet	1	SW			
1415					10± Porpoise - SW	
1415	Shear Pet	6	S			
1415	" "	2	S			
1420	Sooty Shear	1	S			
*F 1422	wedgetails	10	⊙		Feeding flock - milling low over H2O	
	sooty Shear	1				
	noddy tern	7				
1427	Newells S.	1	N		light rain squall passing over ship.	
1428						
1429	Newells S	1	N			
1429	Newells S	2	S			
1429	Newell's S	1	N			
1429	Sooty Shear	1	S			
1429	Bulwers Pet	1	W			
1432	Shear water Pet	2	S			
1432	" "	1	W			
1432	" "	1	S			
1433	Wedgetail	1	S			
1435	Leach's Pet	1	SW			
1441	Shearwater-Petrel	2	S			
1444	Bulwer's Pet	1	SW			
1450	Newells	2	N			
1450	Sooty Shear	1	S			
1451	Newells	1	N			
1452	Noddy tern	1	N			
1453	Sooty Shear	2	S			
1453	C. Noddy	1	N			
1457	Sooty Shear	4	S			
1457	" "	1	S			
1457	Newell's Shear	1	S			
1459	Red-foot	1	E		Imm.	
1500	Sooty Shear.	1	S			
1502	Bulwer's Pet	1	S			
1504	Dark-rump. Pet	1	N			
1505	Wedgetail	1	N			
1509	Sooty Shearwater	2	S			
F 1516	" "	3			flushed	
	Bulwers	3				

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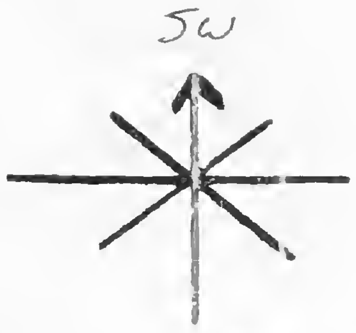

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

Noon Position: 21°12'N; 158°08'W

DATE September 7, 1965
Pg.# 4

	time	species	#	dir.	hgt.	remarks	loc.
	1517	Sooty Shearwater	2	S			
	1517	" "	2	S			
F	1517	" "	10	S		strung out	
	1519	" "	2	S			
	1521	" "	1	S			
	1521	Bulwers	1	NE			
F	1526	Sooty Shearwater	8	S		arcing slightly - all birds up to this point in nearly level flight, 3-4 flaps + short glide	
	1530	" "	1	S			
	1531	" "	1	S		shaky arcing, much flapping on upsweep.	
	1531	Wedgetail	1	S			
	1534	Sooty Shear	4	S			
	1535	" "	2	S			
F	1538	" "	6	S			
	1540	Wedgetail	1	SW			
	1542	Sooty Shear	1	S			
	1545	" "	1	S			
	1545	" "	1	S			
F	1547	" "	5	S			
	1547	Newells	1	N			
	1548	Sooty Shear	2	S			
	1550	Wedgetail	1	NW			
	1550	Sooty Shear	4	S			
	1553	Bulwers	1	SE			
	1554	Wedgetail	2	N			
	1555	Sooty Shear	1	S			
	1558	" "	1	S			
	1558	Sooty Tern	3	NW			
	1558	Bulwers	1	NW			
	1559	Sooty Shear	2	S			
F	1601	Sooty Tern	3				
		Noddy Tern	20+				
		Wedgetail	10+				
	1601	Sooty Shear	1	S			
	1601	Wedgetail	1	S			
	1604	Sooty Shear	1	S			
	1605	" "	2	S			
	1605	Bulwers	1	S			
	1606	Sooty Shear	1	S			
	1606	Bulwers	3	S			
	1606	Leachs	1	SW		with Bulwers briefly	
	1606	Newells	1	S			
	1609	Bl. wing Petrel	1	S		life bird!	
	1610	C. Noddy Tern	2	N			
	1611	Sooty Shear	1	S			
	1614	Newells	3	N		separate	
F	1616	Sooty Tern	7	NW			
	1617	Sooty Shear	1	S			

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

Noon Position: 21°12'N; 158°08'W

DATE 7 Sept. 65
Pg.# 5

time	species	#	dir.	hgt.	remarks	loc.
1619	Sooty Shear	1	S			
1621	" "	1	S			
1621	Newells	1	N			
1623	Wedgetail	1	N			
1623	Sooty Tern	1				
1625	Sooty Shear	1	S			
1625	Newells	2	N			
1627	Sooty Shear	1	S			
1630	Sooty Shear	1	S			
1630	Noddy Tern	3				
1630	Newell's Shear	1	S			
1633	Sooty Shear.	2	S			
1635	Noddy Tern	1	W			
1636	Sooty Shear.	1				
1637	"	1				
1637	Newell's	1				
1639	C-Noddy	1	N			
1639	Sooty T.	3	W			
1643	Newell's	1				
1645	C-Noddy	1	NW			
1647	Newell's	1				
1649	Bulwer's	1	NW			
1652	Bulwer's	1	SSE			
1652	Wedgetail	1	WSW			
1659	Bulwer's	2	SW			
1706	Bulwer's	1	SW			
1707	Tern sp.	1	W			
1709	Sooty S.	1	S			
1713	Sooty Tern	3				
1713	Newell's	1	NW			
1715	"	1	SSE			
1717	Wedgetails	2	SW			
1719	Sooty Shear	1	E			
1722	Bulwers	2				
1722	Wedgetails	2	NW			
1737	Newell's	4+				
1743	"	1				
1745	"	1	SE			
1749	Bulwers	1	S			
1759	Bulwers P.	2	N		close together	
1800	Wedge tail	1	N			
1801	Bulwers Pet.	1			circling about bow of ship after coming off H2O	
1804	Bulwers Pet	1	S			
1806	" "	1	S		some back and forth feeding activity as the bird progressed S.	
1815	WTTB	1	NE		came over ca. 100' up, circled ship once and continued NE.	
1817	Newell's S.	1	NE			

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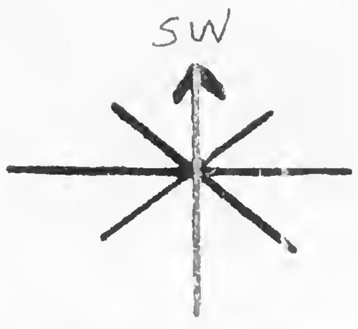
DIVISION OF BIRDS
AT SEA DAILY LOG — E



Nom. Pos: 21°12'N ; 158°08'W

DATE 7 September 1965
Pg.# 6

time	species	#	dir.	hgt.	remarks	loc.
1830	Bulwers P.	1	N		flying fast w much flapping —	
1832	Bulwers P.	1	SE		close across bow.	
1835	wedgetail	1	N		dark phase	
1842	" "	1	N			
1846					Sunset Cease Observations	

4
62
129
77
231
53

556

4
46
45
40
42
40

217

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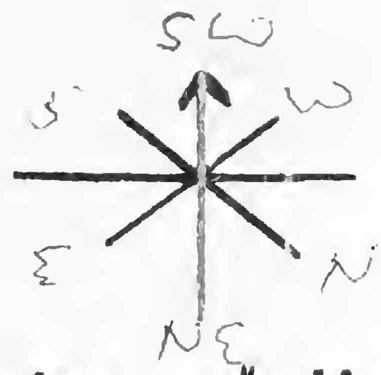

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

S209

DATE 8 Sep 65
Pg.# 1

Noon Position: 19°34'N; 162°20'W

time	species	#	dir.	hgt.	remarks	loc.
0515	begin observation					
0523	Sooty Tern	2	NE			
0530	Noddy	1	SE			
0531	RTTB	1	©			
0532	Sooty Tern	2	SE			
0533	Sooty Shear	1	S		silver underwing	
0534	Wedgie	1	∿			
0535	Sooty Shear	1	S		silver underwing	
0543	Sooty Shear	1	S			
0545	Wedgetail	2	∿			
0547	"	1	SW			
0547	Bulwers Pet.	1	SW			
0549	wedgetail	1	SW		3 now together	
0549	Sooty Shear	1	S			
0555	" "	1	S			
0600	P. hypoleuca	1	S			
0600	Sooty Shear	1	S			
0604	wedgetail	1	S			
0608	" "	1	NE			
0610	RTTB	1			sitting on H_2O allowed ship to approach within 60 yds before flying no Mid-tail feathers	
0611	Wedgetail	1	SW			
0611	Bulwers Pet	1	©			
0614	Sooty Shear	1	S		silver underwing	
0614	Wedge tail	1	S			
0621	Shear-Pet	2	S		white underwing	
0625	Sooty tern	1	S		30' above H_2O	
0627	Sooty Shear	1	S			
0630	wedgetail	1	N			
0630	Sooty Tern	2	S			
0630	P. hypoleuca	2	S			
0632	Sooty Shear	3	S		silver	
0635	Newell's S.	1			flushed	
0636	Sooty Tern	1	S			
0637	Sooty Tern	1	SW	50ft		
0640	" "	2	SW			
0640	" "	1	S			
0645	" "	3	S			
0645	Shear-Pet	1	S		white underparts	
0647	Sooty tern	1	S			
0653	" "	1	S			
0653	P. hypoleuca	2	S		~~white underparts~~	
0656	wedgetail	1			a few feet off bow	
0700	P. hypoleuca	1	W			
0701	Newell's S	1	S			
0702	Sooty Tern	1	S			

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

SI C 9

Noon Position: 19°34'N; 162°20'W

DATE 8 September 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0705	wedgetail	1	S			
0705	P. hypoleuca	1	S			
0705	bird	1			off on horizon	
0706	wedgetail	1	S			
0710	Shear Pet	2	③			
0711	Wedgetail	1	W			
0712	WTTB	1				
0713	wedgetail	2	SW}		more or less flying together	
	newell's shear	1	SW}			
F 0714	Sooty tern	17	S		travelling. strung out	
0715	Wedgetail	1	S			
0718	White-necked P	1	NE			
0728	wedgetail	2	S			
0728	P. hypoleuca	1	S			
0728	Shear Pet	1			distant	
0732	Sooty tern	1	E			
0735	shear-petrel	1	N			
0740	Bulwer's P	1	N			
0740	Sooty Tern	4	S			
0746	W-T Tropicbird	1	~		Subadult	
0750	Newell's	2	S			
	Wedgetail	2			R.P	
0755	Pterodroma	1	S			
0756	Wedgetail	1	S		RP	
0810	Wedgetail	2	S			
0811	WTTropic	1			on H2O Feeding.	
0813	Wedgetail	2	S			
0820	Wedgetail	1	S		RP	
0827	R-T Tropic	1	NE			
0833	P hypoleuca	1	S			
0840	R-T Tropicbird	1			on H2O	
OT FF 0850	Sooty Tern	90	10		one new orange streamer on adult Sooty CK PW	
	Wedgetail	35	5		Actively feeding. No immature Sooties seen.	
	Fairy Tern	1				
	R-T Tropic	1				
0900	C. Noddy	1	SE			
0907	Sooty Shear	2	SE		white underwings	
0908	P hypoleuca	1	N			
0910	Wedgetail	1	NW			
0913	JF Petrel	1	W			
0920	Sooty Shear	1	S			

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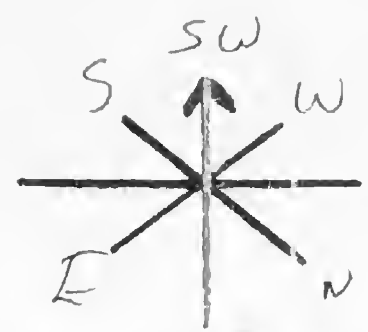
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



Noon Position: 19°34′N; 162°20′W

SIC 9
DATE 8 September 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
0927	Wedgetail	1	NW			
0932	Wedgetail	1	N			
0943	P. hypoleuca	1	N			
0958	W-T Tropic	2	SE			
1010	Wedgetail	1	S			
1011	Sooty Shear	1	S			
1029	Bulwers	1			dabbling on water right in front of ship, dipping head with wings spread.	
1033	Sooty Tern	1	SE			
1037	Bulwers	1	S			
1054	Wedgetail	2	SW			
1114	Sooty Shear	1	SE			
1127	Wedgetail	1	SW			
1129	Bulwers	1	S			
1130	Wedgetail	1	SW			
1134	Sooty Shear	2			on water; flushed after ship passed.	
1143	Wedgetail	3	N		one dark.	
1148	Sooty Shear	4	SE			
1149	Juan Fernan Pet	1			appeared very pale backed + on the head	
1157	Sooty Shear	3			on H2O allowed ship to approach to within 150 yds, then flew - silver underwings	
1205	FLOCK					
	SOOTY T.	24+				
	SHEAR. PET.	10±	E		Terns flying high, no feeding behavior.	
1223	Bulwers	1	S			
1232	SOOTY SHEAR	3	S			
1233	" "	1	S		FLYING FAST & STRAIGHT - HIGH ARCS	
1235	" "	1				
[illegible]	JFP	1			[illegible] up to 30 feet from surface	
1238	BULWER'S Pet.	1				
1240	P. hypoleuca	1	S			
1243	Wedgetail	1	NE			
		1	N			
1250	" "	1	SW			
1305	SOOTY TERN	1	S			
1307	" "	1	SE	5-10′	low over water	
FF 1309	FLOCK					
	SOOTY TERN	175			feeding w small numbers circling ~~hig~~ high. Sooty Terns of 1305 + 1307 were headed for this flock.	
	WTS	80				

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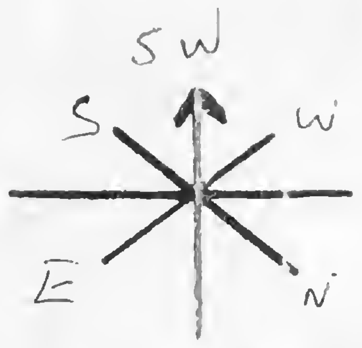

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

51C9

DATE 8 September 1965
Pg.# 4

Noon Position: 19°34'N; 162°20'W

	time	species	#	dir.	hgt.	remarks	loc.
	1325	WTS	1			sitting on water - ship passed within 150 yds.	
	1329	Bulwer's	1	NE			
	1340	"	2	SSE			
	1346	Wedgetail	1	NW			
	1350	Shear-Pet	1	S		very far out - brief look over ships.	
	1352	WTTB	1	∞			
	1354	Bulwer's P.	3	∞		flying in circles together	
	1400	Sooty tern	1	NE			
	1400	Gray-back tern	1	NW			
	1401	Bulwers Pet	2	~~S~~W			
	1404	Sooty Tern	1	SW			
FF	1414	Sooty tern Wedgetail	22 6			actively feeding flock - Sooties alternately rising to about 40 ft and then dropping back low on the H_2O.	
	1420	Bulwers Pet	1	SW			
	1424	Bulwers Pet	1	◎			
	1428	RTTB	1	NE			
	1430	Bulwers Pet	1	S			
	1447	Shear-Petrel	1	S		may have been a Sooty Shear.	
	1450	Wedge tail	1	S			
	1451	Bulwers Pet	1	◎			
	1456	Wedgetail	1	SW			
	1458	"	1	SW			
	1502	"	1	S			
	1504	Bulwers Petrel	1	◎		circling about bow of ships	
	1506	Wedgetail	2	◎ generally		SW	
	1507	Bulwers	1	○ " "		" 100 yds out from ships.	
	1507	Sooty Shear	1	S			
	1509	Wedgetail	1	S			
	1510	Black-wing Petrel	1	NE		uniform gray head + back, very much dark under wing	
	1511	Wedgetail	2	∘		on H_2O - flew up when ship approached to within 30 yds.	
	1511	Sooty shearwater	1	S			
	1512	" "	1	S			
	1512	Wedgetail	2	N			
	1521	Bulwers Petrel	1	N			
FF	1528	Sooty Tern Fairy Tern Wedgetail	30 1 4	NE		Feeding flock 2 Sooties (1 imm.) came about ships. + flock alternately diving low and rising.	
	1528	Sooty shear	2			on H_2O allowed ships to approach to 60 yds.	
	1530	" "	1	S			
	1550	Bulwers Pet	1	S			
	1555	Wedge tail	1	N			
	~~1555~~ 1607	Sooty Tern	2	E			

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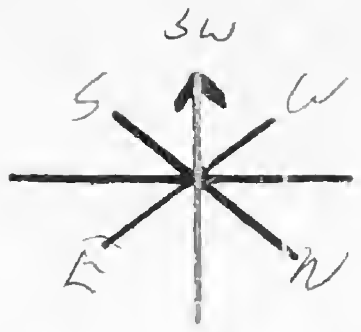
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

STC 9

DATE 8 Sept 1965
Pg.# 5



Noon Position: 19°34'N; 162°20'W

	time	species	#	dir.	hgt.	remarks	loc.
	1616	Bird	1	S		maybe Sooty Shearwater	
	1617	"	1	S		"	
	1620	Sooty Shear	1	S			
	1625	Shear-Pet	1	NE			
	1627	Bl-wing Petrel	1	N	—	WK	
FF	1635	Sooty Tern JFP Shear/petrel Bl-wing Petrel Fairy Tern Frigate	75 ±15 25 ±10 25 ±10 10 ±5 2 1			actively feeding	
	1636	JFP	1	SE		joining flock	
	1637	Bl-wing Pet	1	SE		"	
	1645	Sooty Tern	5			"	
	1652	Sooty Shear	1				
	1653	Wedgetail	1				
OTFF	1700	Sooty Tern Wedgetail Xmas Is J F Petrel Fairy Tern Bulwer's G Frigate WN Petrel	700±100 650±95 2 5 5±2 1 3 1		—	~~SE~~ At 10 immature Sooties - one new orange-streamer adult, KA. 50 dark phase WTS Actively feeding. WTS sitting in H_2O. A few seen jumping.	
	1725	Bl-wing Pet	2				
		Wedgetail	1		—	ctf	
		Bulwer's	1				
	1730	Bl. winged Pet	2	N			
	1731	B. [illegible]	2	NE			
	1732	Bulwer's P	1				
	1733	Bulwer's P	1				
	1737	[illegible]	1	N			
	1740	Bulwer's	1	NE			
	1741	Com Noddy	1	NE			
	1750	Bulwer's	2	NE			
	1750	Bulwer's	1	[illegible]			
	1801	Wedgetail	1	NE			
	1801	Shear-Pet	1	S			
	1802	Wedgetail	1	NE			
	1803	SUNSET					

Noon Position: 19°34'N; 162°20'W

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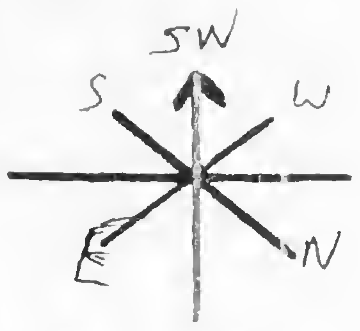

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 8 September 1965
Pg.# 1 (Noc. obs).

Nocturnal Observation
Sunset (1803) — 2000

time	species	#	dir.	hgt.	remarks	loc.
1803	Sunset-(Begin Observations)				Moon nearly full	
1808	Wedgetail	1	N			
1815	Sooty Shear	1	S			
1818	Wedgetail	1	N			
1822	P. hypoleuca	1	NE			
1828	Wedgetail	1	N			
1830	Shear-Pet	3	E			
1830	Wedgetail	1	SE			
1836	Bulwers Pet	1	SE			
1837	Wedgetail	1	E			
1838	Bulwers Pet	1	NE			
1842	Wedgetail	1	SW			
1844	Pterodroma externa	1	SW			
0752	Shear Pet	1	NE			
1900	Shear-Pet	1	W			
1915	Shear-Pet	2	◎			
1920	Shear-Pet	4	NW		Probably Wedgetail by their flight	
1726	Shear Pet	1	◎		" " " " "	
735	Shear. Pet	1	◎			
1956	Ptero. Hypoleuca	1	◎			
2000	STOP Observations					

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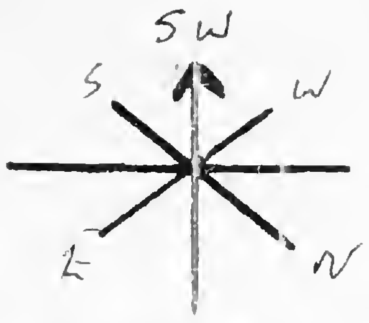
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

5IC 9

DATE 9 Sept 1965
Pg.# 1



Noon Position: 17°58′N; 166°16′W

	time	species	#	dir.	hgt.	remarks	loc.
	0548					Sunrise - begin observations	
	0552	Sooty Tern	3	NE			
	0615	Shear-Pet	2				
	0618	Wedgetail	1	N		sitting on H_2O; probably Wedgetail	
	0620	Shear-Pet	1				
FF	0625	Sooty Tern	15±			all adult Mahimahi jumping beneath	
		Wedgetail	15±			2 dark	
		Juan Fernandez	4±				
		Long-tailed Jaeger	1			called jaeger sp (small) in daily summary - white breast	
	0630	Red-tailed Tropic	2				
	0710	Wedgetail	1	E		dark	
	0722	Tropicbird	1			on water	
	0754	Bulwers Pet					
	0758	White-necked Petrel	1	S		on water	
0S FF	0800	Sooty tern	75			one ad. w/ orange Streamer	
		Wedgetail	20			Feeding flock, aku jumping. terns and wedgetails working pretty much together, except for higher elevation above H_2O maintained by sooties	
		JFP	1				
	0815	Wedgetail	2	SW			
	0817	P. externa	1	S			
	0835	Tropicbird sp	1			sitting on H_2O, probably immature RTTB	
	0838	Shear-Pet	1	NE			
	0851	P. hypoleuca	1	SE			
	0905	Wedgetail	1	W			
	0908	P. externa	2	S			
	0911	Juan Fernandez P	1	S			
	0913	Wedgetail	1	NW			
	0915	RTTB	1			Sitting on water	
	0917	Shear-Petrel	1	S			
FF	0940	Sooty Tern	150			40+ imm. Sooty Tern - Flock, en masse, occasionally dropped low - no feeding observed	
		Wedgetail Sh.	25			10+ were dark phase	
		J.F Petrel	6				
		Fairy Tern	1				
	0948	Red-tailed Tropicbird	1	O			
	0957	Shear Pet	1	S		all dark, probably dark phase wedgetail	
	1005	JF Petrel	1	NE			
	1015	R-T Tropic	1			on H_2O	
	1027	RT Tropic	1			on H_2O	
	1040	JF Petrel	1			on H_2O	
		Wedgetail	1			" molting. d phase	
	1041	Wedgetail	1	N		LP	
	1120	JF Petrel	1	NE			
	1120	Wedgetail	1	S		dark phase sat on H_2O about 1121	
	1154	Wedgetail	1	S		on water, flew -	
	1250	Black-winged P.	1	ESE		good contrast between black wingbars + gray back - thin black underwing edges.	

ST	243
S-P	6
W	70
JFP	15
LTJ	1
RTT	6
BP	1
WNP	1
P.e.	3
T1	2
P.h.	1
FT	1
BWP	1
	351

34

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 9 SEPT 1965
Pg.# 2

Noon Position: 17°58'N; 166°16'W

	time	species	#	dir.	hgt.	remarks	loc.
	1301	Wedgetail	1	NW	-		
	1335	Sooty Shear	1	S			
	1357	RTTB	1				
	1357	Wedgetail	1	SE			
	1402	Wedgetail ~~shear pet.~~	1				
	1427	Sooty Tern	3	N			
	1440	P. hypoleuca	1	NW			
	1442	Sooty Tern?	2	SE			
F	1447	" "	50			TF TF Flock ~~dispearsed~~ disbursed when ship approached	
		Wedgetail	5				
	1454	Wedgetail	1				
	1541	Tropicbird sp.	1			sitting on H2O	
	1543	P. hypoleuca	1	N			
	1554	Shearwater. Petrel	1	se			
	1615	WTTB	1			circled ship	
FF	1635	Sooty Tern	75 ±15			1 at least immature	
		Wedgetail	50 ±10			all light — feeding Flock	
		JFP	2				
		Small jaeger	1			white underparts	
FF	1653	Sooty Tern	75			FF	
		Wedgetail	20			Subad.	
		RTTB	1	☉			
	1700	P. externa	1				
	1700						
	1703	Bulwer's	1				
FF	1705	Sooty T.	35 ± 5				
		Fairy T.	2				
		Shear-Pet	1+				
	1719	Bulwers	1	N			
	1739	RTTB	1				
	1753	Wedgetail	1				
	1758	WNP	1			sat on H_2O	
	1758	Wedgetail	1				
	1809	Wedgetail	4	⑥			
	1817	Sunset					

W	85
SS	1
RTT	3
ST	243
P.h.	2
Tr	1
S-P	2
WTT	1
JFP	2
J	1
P.e.	1
BP	2
FT	2
WNP	1
	347 / 26

Noon Position: 17°58'N; 166°16'W

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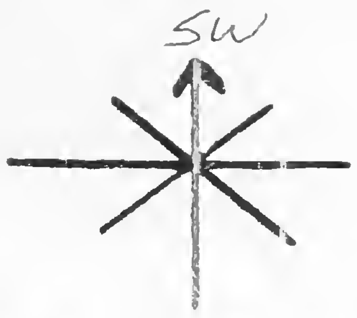
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

Nocturnal Observations

DATE 9 Sept 65
Pg. # 1, Night Watch

	time	species	#	dir.	hgt.	remarks	loc.
	1817	sunset				start Observations	
F	1830	Sooty Tern	75±	20		Feeding	
		Wedgetail	20±	10			
		Shear-Pet	25±	10			
	1835	Bl.wing Petrel	1	S			
	1847	Shear-Pet	1	NE			
	1915	Shear-Pet	1	SE			
	1953	Shear-Pet	1	SW			
	2000	Pterodroma sp.	1	SW			
	2016	Wedgetail	1	NE			
	2013	Shear-Pet	1	SW			
	2021	Wedgetail	1				
	2126	Shear-pet	1	NE			
	2137	" "	1	NE			
	2205	"	1	NE			
	2206	Stop Observations					

Noon Position: Johnston Island
(1200)

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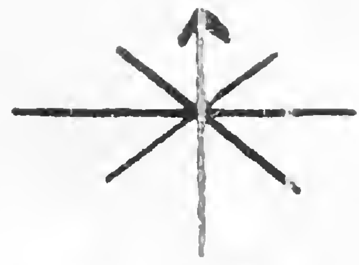
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

SW
S from 1515 on



DATE 10 September 1965
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0550	START	O	BS	ER	VATIONS	
	0554 0604	Sunrise				Sand Johnston ca. 6 mi to West.	
	0605	wedgetail	1	S		Took off from H2O	
	0605	Shear pet	1	O			
	0620	P. hypoleuca	1	NE			
	0621	Sooty tern	1	NE			
	0621	" "	1	E			
	0625					S Johnston 4 mi away (closest point)	
	0626	Frigate	1	O			
	0628	Frigate	1	O		joined that of 0626. both alternately raising to about 100 feet and dropping low to H2O. 2 or 3 times.	
	0701	Sooty T.	2	S			
		Wedgetail	1				
	0703	Sooty Tern	1	S			
	0704	wedgetail	1	N			
	0710	Sooty tern	2	S			
	0710	" "	1	S			
	0715	" "	2	S		coming off Sand I.	
	0716	Red-foot B.	3	S		" " "	
	0716	noddy tern	1	S		" " "	
	0716	Sooty tern	3	SW		" " "	
	0717	Red foot B.	2	SW		" " "	
	0717	" " "	1	SW		" " "	
	0722	Sooty tern	1	SW		" " " subad. orange streamer 1 mi off S I.	
OS	0724	Red foot booby	1	SW		" " "	
	0726	Sooty tern	2	S		" "	
OS	0728	Brown Booby	2			immatures, both w/ orange streamer, both settling ~~buoy~~ off islands.	
	0736	Sooty Tern	2	SW			
	0737	Frigate	1			ad ♀ on buoy	
	0745					stop observations dock at Johnston.	
	1515					Begin observations leave Johnston	
OT	1515	Sooty T.	3			1 with orange st.	
	1515	" T.	2	S			
	1516	Frigate	1			sit. on buoy	
	1516	C. Noddy	1	NE			
	1517	Br. booby	1			sit. on buoy	
	1526	sooty T.	3	S			
	1526	C. Noddy	2	S			
TF	1534	Sooty T.	30				
		Frigate	3				
TF	1540	Sooty tern	6	N			
	1540	Wedge Tail	1	N			
	1542	Booby sp.	1	SW			
	1544	C. Noddy	2	E			
OS	1546	C. Noddy	1			O.S. - was sitting on water bathing 'till routed by ship.	
	1551	" "	2	E			

Noon Position Johnston Island

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 10 September
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1611	Frigate	3				
	1612	Bulwer's	1			flushed from H_2O	
	1614	Wedgetail	1				
	1621	Bl. Winged P.	1	S			
	1625	"	1	S			
OT	1633	Wedgetail	1	N		Johnston still visible, orange streamer	
	1635	"	1			dark phase	
	1638	Frigate	1				
	1700	Frigate	1				
	1701	Bulwer's	1	S			
	1703	"	1	S			
	1717	Wedgetail	1	N			
	1722	Bulwer's	1	S			
	1722	Sooty Tern	1				
5 O.T.	1730	Sooty Tern	75+	15			
FF		Wedgetail	75 ~~100+~~	+		3 light phase with streamers, 1 dark phase with streamer, 20% immature 40 ~~25~~ % dark phase	
		Red-Footed B.	8				
		Frigate	3 ~~40~~			all sub adults or immatures, 1 with orange streamer	
	1810	Shear. Pet.	1	W			
	1822	B W Petrel	1	S			
	1824					Sunset	

Nocturnal obs.

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

Noon Position: Johnston Island.

DATE 10 Sept 1965
Pg. # Night watch - 1

	time	species	#	dir.	hgt.	remarks	loc.
	1824	Sunset — Begin Observations.					
	1830	Wedgetail	2				
	1945	Tropicbird sp.	1	—			
	2020	Shear pet	1	S			
	2028	" "	1	N			
	2047	Pterodroma sp.	1	S		large white underneath, Prob. P. externa	
OS	2050	Wedgetail	1	◎		orange Streamer — streamer showed up very clearly in sidelights.	
	2055	" "	1	N			
	2058	" "	1	W			
	2103	" "	1	S			
	2107	" "	1	N			
	2114	shear pet	2	◎			
	2135	" "	1	S			
	2137	" "	1	S			
	2142	wedgetail	1	◎			
	2145	" "	1	S			
	2154	sooty tern	1	S		heard calling	
	2210	Stop Observations					

4

22

3.6 hrs.

1.60 h

= 3.9
1.8

Noon Position 13°38'N; 170°42'W

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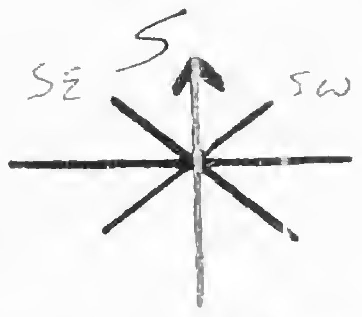
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



DATE 11 Sept 1965
Pg.# 1

	time	species	#	dir.	hgt.	remarks	loc.
	0600	Start Observations					
	0605	Wedge-tail	1	N		light phase	
	0611	Sunrise					
	0650	~~P. externa~~ White-necked P.	1	N			
	0655	1				Porpoise - 3 + - heading SE	
	0720	P. externa	1	W			
	0727	Bulwer's	1	S			
	0733	P. externa	1	SE			
	0738	J.F. Petrel	1	SE.			
F	0750	Sooty Tern	8			1 imm.	
		J F Petrel	1				
		Wedgetail	2			dark	
	0818	Bl. wing. Petrel	1				
	0832	Shear - Pet	1				
	0903	" "	1	SW		All dark except lower breast + abdomen; fast flight; too distant to see underwing patch if present	
	0927	P. hypoleuca	1			flushed from H_2O, had back like P. h. nigripennis but underwing pattern exactly like that of P. h. hypoleuca (dark mark); much white on sides of neck + nape - head looked lighter than back	
	1012	Sooty T	1	NE		imm.	
	1035	P. externa	1	NW			
FF	1045	Sooty T.	18			FF	
		Fairy T	4				
		P. externa EXTERNA	2			← 1 P. EXTERNA EXTERNA COLLECTED	
		P. hypoleuca	1				
	1148	Black winged Pet	1	N		came in to about 75 yds	
	1207	~~[illegible]~~ P White-necked	1	E			
	1230	Sooty/Slenderbilled Shear	4	SSE			
	1238	Sooty Shear	1	SSE			
	1246	Fairy Tern	1	S			
	1247	Wedgetail	2	SE		dark phase	
FF	1300	Sooty Tern	150	±15		30 immatures	
		Wedgetail	50	±10		35 dark phase	
		JFP	3				
		WNP	1			collected by Husted	
	1330	Shear - petrel	1	∿∿			
	1331	P. externa	1	∿∿			
	1332	Wedgetail	1	N			
	1333	WTTB	1	◎		? phase	

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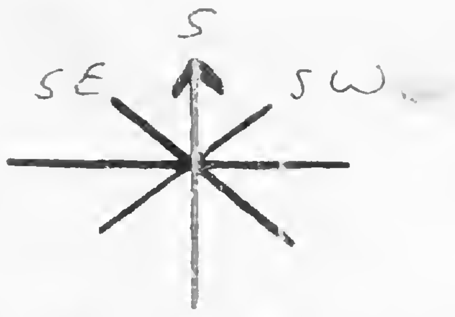
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



S I C T

DATE 11 Sep 65
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
FF	1400	Sooty Tern	35	±5			
		Wedgetail	5+			feeding	
		JFP	1+				
	1422	Sooty? Shear ~~Wedgetail~~	1	SE		~~[illegible]~~	
	1440	J F Petrel	1	SE			
	1444	Dark-winged P	1	W		Bl-winged petrel WBK	
	1447	P. hypoleuca	1	—		~~saw~~ sat on water	
	1501	Red-tailed Tropicbird	1				
	1515	Sooty? Shear	1	SE			
F	1518	~~[illegible]~~	~~3~~	~~[illegible]~~		dist out	
		Bulwer's	4	↻			
		P. hypoleuca	1				
	1525	Bulwer's	1	SE		sat on H2O once.	
	1605	P. hypoleuca	1	S			
TF	1615	Sooty tern	35	S		on horizon	
	1619					2 squalls off port	
	1626	Bulwers?	1	SW		Small, appeared all dark, flight more like Pterodroma	
	1656	Kermadec Pet	1	SSE		Dark phase	
	1705	P. externa	1	SE			
	1710	Wedgetail	1	S		dark phase	
	1713	"	1	SE		dark phase	
	1725	Newells	1	N			
	1742	P. externa	1	NW			
	1816	Sooty Shear	2	SE			
	1823	shear-pet	1				
	1828	Sunset	1	W	↓		

SIC 9

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 11 Sept. 1965
Pg.# 1

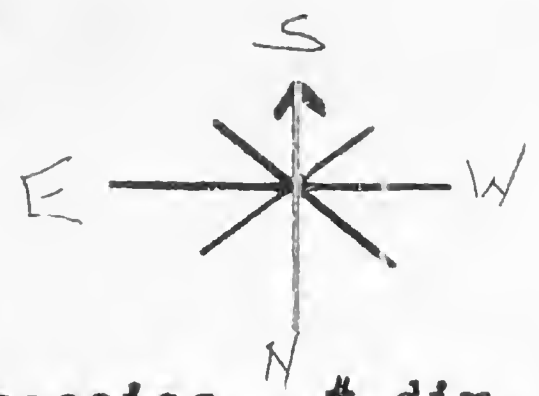
NOCTURNAL OBSERVATIONS

time	species	#	dir.	hgt.	remarks	loc.
sunset 1828	Start Observations					
1835	Sooty Shea	1	SE			
2000	Stop Observations					

Noon Position: 9°50'N; 172°28' W

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



SEC 9

DATE 12 Sept 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0618	SUNRISE					
0628	Sooty Tern	1	SSE	100'		
0641	Black Winged Pet.	1	S		sitting on water, headed generally south	
0705	Shear-Pet	1	SW			
0707	Pterodroma externa	2	S		Following along edge of squall	
0714	WN Petrel	1	SE			
0723	Black Winged Pet	1	NE			
0743	Black Winged Pet	1	NW		Little white underwing	
0746	Shear Pet	1	W			
0750	P. hypoleuca	1	S			
0758	P. externa	1	E			
0803	Shear-Pet	7 ±1	SE		Sooty Shear?	
0806	" "	1	SE		" "	
0809	" "	4	SE		" "	
0813	Sm. Pterodroma	1	W			
0825	Sooty ? Sh.	1	SE			
0830	WTTB	1	⤵			
0835	P. hypoleuca	1	N		uniform gray head & back, strongly contrasting "W"; medium underwing border w/med. hash	
0842	JFP	1	↙			
0900	Sooty ? Sh.	1	SE			
0901	" " "	1	SE			
0903	Shear-Pet	1	SE		Dark Wedgetail or Sooty type	
FF 0920	Sooty Tern	70 ±5			~ 5 min.	
	Wedgetail	10			all dark	
	JFP	7-8			JFP collected Pl, + R?	
	Brown Booby	1			Ad.	
0948	Sooty Shear	1	SE			
0948	P. hypoleuca	1	NW			
0955	Bird	1	S		all white	
1005	Wedgetail	1	SE		[illegible]	
1006	P. hypoleuca	1	NW			
1007	Pt. externa	1	NW			
1013	~~P. hypoleuca~~ Bl-wing Petrel	1	NNW			
1015	Sooty? Shear	2	SE			
1015	P. hypoleuca	1	SE			
1019	Sooty Shear	2	S-SE			
1025	Bl-winged Petrel	1	N			
1029	P. externa	1	NW			
1029	sooty Shear	1	S-SE			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

SIC 9
DATE 12 September 1965
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1032	Bl-wing Petrel	1	N			
	1038	Sooty Shear	4	S			
	1038	P. hypoleuca	1				
	1040	sooty shear	1	S			
	1042	Black-W. Pet.	1	SE			
	1043	Sooty Shear	4	S			
	1049	" "	1	S			
F	1057	Wedgetail	3			1 light phase	
		Black-w. Pet.	4			most sitting on H_2O	
	1103	Sooty Shear	11	S			
	1111	" "	2	S			
	1112	P. hypoleuca	1	N			
	1116	Bulwers	1	S		molting on inner primaries	
	1117	Black-wing Pet	1	N			
	1120	sooty Tern	80±10				
		Shear pet	25+			FF	
		Booby sp.	1				
	1129	Sooty Shear	5	S			
	1130					Rainsquall passing from NE to SW	
	1135	Sooty Shear	1	S			
	1136	" "	1	S			
	1140	Black-wing P.	3	S		2 sat on H_2O	
	1140	Wedgetail	1			dark	
	1149	Sooty Shear	1	S			
	1204	shear/petrel	1	N			
	1206	Sooty Shear	5	SSE			
	1227	Sooty Shear	8	SSE			
FF	1235	Sooty Tern	40±5			10 Adults, All others Young	
		Wedgetail	15			DP.	
		JFP	1				
	1250	BWP	1	N			
	1251	BWP	1	N			
	1258	Sooty Sh.	2	S			
	1259	BWP	4				
	1311	Red footed B.	1	SE		pink bill, head + neck white; wings, back, underparts + tail brown immature/subadult	
	1328	BWP	1	S			
	1331	Sooty Shear	1	S			
	1404	Sooty Shear or Slenderbill	14	S			
	1414	P. hypoleuca	1	SW			
	1421	Bl. wgd. Pet.	1			circled in front of ship, headed SE	
	1438	Sooty Shear	2	SSE			
TE	1445	"	7			travelling	
	1446	"	2				

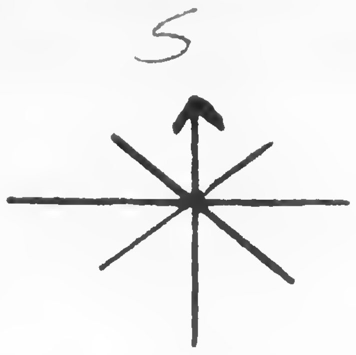
SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

5IC9

DATE 12 Sept. 1965
Pg.# 3

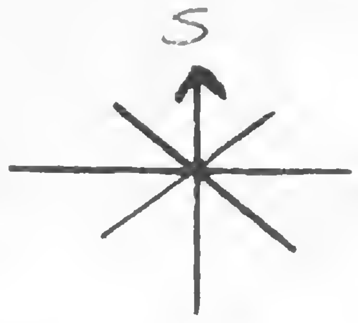
	time	species	#	dir.	hgt.	remarks	loc.
	1451	Sooty Shear	1				
TF	1459	Sooty Tern	70±			Travelling	
		Shear-Pet	50±				
TF	1504	Sooty Shear	5			travelling	
	1510	Frigate	1				
	1512	Sooty Shear	1				
	1518 ~~1518~~					rain squall, stbd. side	
TF	1522	Shear-Pet	5	SE		in rain squall, travelling	
TF	1524	Sooty Tern	5			travelling	
	1529	Shear-Pet	1	SE			
	1540 ~~1540~~					rain squall to stbd., rain squall to port	
FF	1541	Sooty Tern	18			feeding flock	
		Shear-Pet	13				
TF	1557	Sooty Shear	10	S		travelling	
TF	1603	" "	8			travelling	
	1612	P. hypoleuca	3	N			
	1630	Sooty ? Shear	2	SE			
	1650	B. F. Booby	1			5A - coll, RF	
	1710	Bl-wing Petrel	1	n			
F	1715	JF Petrel	6			Aku jumping. Flock not seen feeding.	
		Bulwer's	1				
		Wedgetail	2			d.p. = darkphase	
		Bl-w Petrel	2				
		Sooty Tern	8				
	1725	Wedgetail	1	S		dark phase	
	1733	Bl-wing Pet.	1	N			
FF	1740	Sooty Tern	65±			1 imm coll,	
		Wedgetail	15±			all dark	
		JFP	10				
		BFB	1			Ad.	
		Black-w. Pet.	2				
	1800	Sooty T,	150			FF	
		Shear pet	25+				
	1810	Wedge	3			dark (1 coll.)	
	1819	Sooty shear	10	S		TF	
	1820	" "	1	SE			
	1822	" "	3	S			
	1825	Sooty?. Shear	1	SE			
	~~1826~~					~~Sunset~~	
	1826	JFP	1				
	1826	Black-w. P.	1				
	1834	SUNSET				Sunset	



Night obs.

DATE 12 ~~August~~ September 1965
Pg.# 4

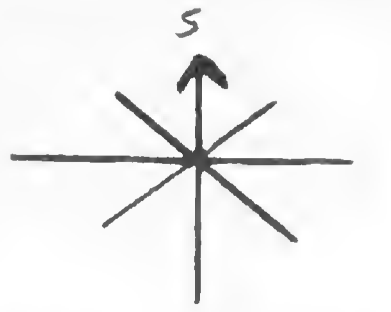
time	species	#	dir.	hgt.	remarks	loc.
1834					Sunset	
1840					Begin observations.	
1915	P. externa	1	N			
1925	Bird	1	N			
2000	Cease observations					



Noon Position: 6°18'N; 173°48'W

SIC 9
DATE 13 September 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0612	Begin Observations - sea as calm as glass					
0618	sunrise				heavy rain squalls about 5 mi off to SE and S	
0625	Wedgetail	1	~		dark phase	
0628	wedgetail	1	NW		dark phase	
0632	Sooty Shear	3	S		practically no arcing - calm	
0634	Bulwers Pet	1	O			
0634	Shear. Pet	1	N		tiny - like Bulwers, but diff flight.	
0636	Sooty Shear	3	S			
0638					Porpoises 25± SW many small individuals	
0642	Wedgetail	1	E		light phase	
0645	Sooty Shear	1	SE		light underwings	
0653	Wedgetail	3	SE		2 dark phase	
0656	"	1	O		dark phase	
0659	Wedgetail	2	Z		dark phase	
0708	"	1	O		dark phase, on and off H2O	
0711	P. hypoleuca	1	~			
0711	Sooty Tern	1	E		Immature	
0720	JF Petrel	1	O			
0720	Wedgetail	1	E		dark phase	
0731	W N Petrel	1	E			
0735	P. externa	1	E			
0742	P. hypoleuca	1	E			
0744	Wedgetail	1	O			
0745	P. externa	3	E			
0749	Pterodroma	1	E			
0806	Pterodroma	1	E			
0808	Fairy Tern	1	W			
0830	P. hypoleuca	1	S			
0839	Slender-billed S	1	S		came quite close, 100yds or less, smaller than Sooty S., gray underwing lining, flew fast and directionally.	
0849	White-N. Pet.	2			sitting on H2O	
0847	Shear - pet	1				
0855	Shear - petrel	1	S			
0858	P. externa	1	N			
0902	White-necked P	1	S			
0912	Kermadec P	1			dark phase	
0919	Black-winged P	1	~			
0922	Sooty/Slender bill	3	S			
0925	Sooty/Slender bill	1	S			
0926	White - necked	1	SE			
0936	Black winged P	1	N			
0955	Black winged P	1	S			
7F 1003	Sooty Shear	7	SE		travelling	
1014	~~White~~ P. externa	1				

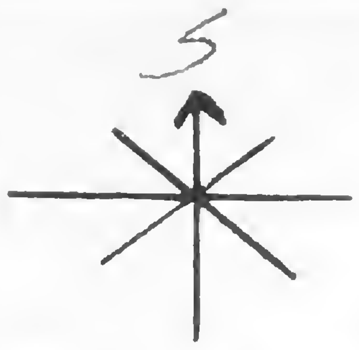


DATE 13 Sept 1965
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1019	B.C. Wgd. Pet.	1				
	1024	Slender-billed Shearwater	1	S		eliminated all other similar birds. All dark, slightly smaller than S.S.	
TF	1035	Sooty Shear	7	S		travelling	
	1040	J.F. Petrel	1	N			
	1044	Sooty/Slender-B.	1	SE			
TF	1045	Sooty Shear/slenderbill	7	SE		travelling	
	1054	Sooty/Slenderbill	1	SE			
	1057	Wedgetail	1	SE		dark	
	1102	BWP	1	SE			
TF	1135	Sooty Shear	11	SE		travelling	
TF	1139	" "	18 ± 2	SE		travelling	
	1144	" "	2	S			
	1144	BWP	1	SE			
	1147	Sooty Shear	2	SE			
	1150	Sooty Tern	4			Travelling North	
		Fairy Tern	2				
	1205	Sooty Tern	26			at least 2 imm.	
		Fairy Tern	4				
		Wedgetail	12			? dark — Feeding - Also jumping around Sooty terns and FT left, shear-Pet were scattered over wide area. sea very calm. 1 JFP collected by Float	
		JFP	6				
		WNP	4			Vall	
	1217	Sooty Shear	1	S			
	1224	Sooty Shear	1	S			
TI	1226	Sooty Shear	8	S			
	1229	JFP	1	SW			
	1230	Bulwer Pet	1	S			
	1232	Wedgetail	1	N			
	1234	Sooty Shear	2	S		low, no arcing.	
TF	1236	Sooty Shear	8	S			
	1240					3+ Porpoise	
	1250	Sooty Shear	2	S			
T	1254	JFP	1	N			
	1301	Wedgetail	1	S		Dark	
	1304	Sooty Shear	3	SE			
TF	1310	Sooty Shear	8	S		Travelling	
	1315	Sooty Shear	1	S			
	1319	Wedgetail	1	dark	⊕		
TF	1322	Sooty Shear	5	S		Travelling	
	1329	Black Winged Pet	2	S		Sitting on water took off	

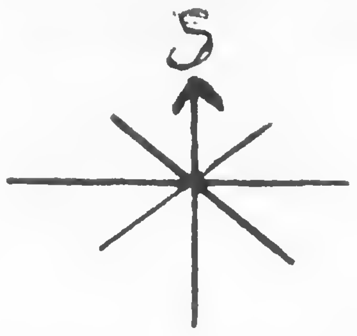
DATE 13Aug15
Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1332	Black-winged Pet	1	F			
	1333	Sooty Tern	1	S			
	1336	Fairy Tern	3	NW			
	1339	Wedgetail	1	N		Dark	
	1341	Wedgetail	2	N.		1 dark 1 light	
	1344	JFP	1			sitting on water - took off ⑥	
	1345	Sooty Shear	1	S			
	1403	Shear-Pet	3				
	1404	Sooty Tern	1				
	1434					large fish jumping ¼ mile off port bow	
	1402	Sooty Shear	1				
	1426	P. hypoleuca	1			on water	
TF	1440	Sooty Shear	15	SSE			
	1441	Bulwers	1			on water - flushed	
	1445	"	1			" " ; - joined above	
TF	1448	Sooty Shea	6	SE		travelling	
	1449	Shear-Pet	2				
	1458	Sooty Shear	3				
	1502	" " ?	4	S			
TF	1504	" " "	5	S			
	1505	" " "	1	S			
	1509	" " "	1	S			
FF	1515	Sooty Tern	7			Sooties high, came down to feed very briefly	
		Wedgetail	1			dark	
		WFP	1				
	1520	Sooty ? Sh.	2				
	1525	" " "	1				
	1531	" " "	1	SSE			
	1535	" " "	1	SSE			
TF	1541	" " "	7	S		travelling	
	1541	" " "	2				
	1545	" " "	2	SSE			
	1545	" " "	2	SSE			
	1550	" " "	3			separate	
TF	1550	" " "	5			2+1+!	
	1547	Wandering Tattler	1				
TF	1558	DK. Shearwater	5			5 - 5B?	
	1559	Slender-bill Sh?	10	S			
	1603	BWP	1				
	1604	Sooty ? Shear	14	S			
	1605	" " "	2	S			



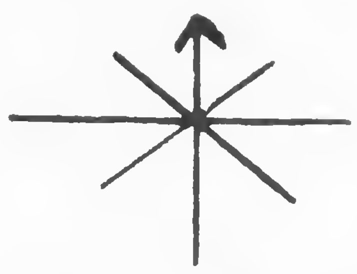
DATE/13 Sept 65
Pg.# 4
51C9

	time	species	#	dir.	hgt.	remarks	loc.
	1612	Sooty Sh.	17	S		lighter underwing pattern seen on several.	
	1615	Fairy Tern	1	E			
	1615	Sooty? Shear	2				
	1624	BWP	1	E			
FF	1628	Sooty Terns	40±10			actively feeding. Flock not noticed until astern.	
		Wedge-tails	15				
	1638	SOOTY SHEARW.	41	S			
	1640	Wedge-tail	1	SE		dark phase	
	1641	J F Petrel	1	W			
	1649	Pterodroma sp.	2	E			
	1700					Put small skiff in H2O	
	1705	Sooty Shear	2	S			
	1709	Sooty Shear	4	S			
	1710	Bulwers	1	N			
	1715	Sooty/SBS	2	S			
	1716	Shear/pet	1	W			
	1717	Sooty/SBS	1	S			
	1718	Sooty/SBS	1	S			
	1730	Sooty/SBS	1	S			
	1731	Noddy	1			perched upon a glass ball - collected (the ball) also a 4 inch triggerfish, black with white mottling and covered with blue spots.	
	1733	Sooty/SBS	1	S			
	1734	Sooty/SBS	3	S			
	1738	Sooty/SBS	1	S			
	1740	Sooty Sh.	1	S			
TF	1743	Sooty/SBS	7	S			
	1746	" "	1	S			
	1746	P. hypoleuca	1				
	1748	Sooty? Shear	1	S			
	1748	" " "	2	S			
	1750	Wedgetail ?	1	O		tack	
	1752	Sooty? Shear	2	J			
	1753	Shear-petrel	1	SE			
	1754	Sooty? Shear	1	S			
	1755	Sooty? Shear	3	S			
	1756	" " "	3	SE			
	1758	shear/petrel	1				
	1802	Red-footed Booby	1			immature (dark tail)	
	1805	Sooty? Shear	1	S			
	1807	Sooty/SBS	1	S			
	1809	Sooty? Shear	1	S		collected by Husted in the skiff	
TF	1812	Sooty? Shear	6	S		also 2 groups of 6 or so pilot whales? heading N	
	1815	Sooty? Shear	1	S			



DATE 13 Sep 65
Pg.# 5
Sec 9

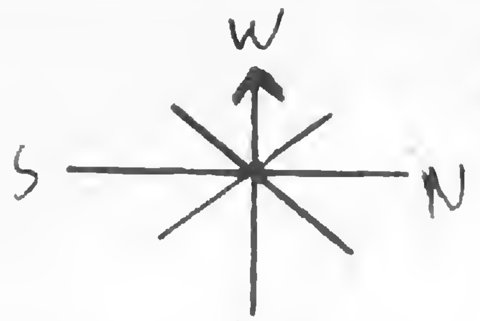
	time	species	#	dir.	hgt.	remarks	loc.
TF	1820	SBS?	6	S			
	1821	SBS?	1	S			
	1825					more pilot whales - 15 or so	
SF	1820	Wedgetail	5			dark 3 collected by Husted - sitting on water	
	1830	SBS?	1	S			
	1832	"	2				
TF	1835	5-SBS	14				
	1835	~~P. hypoleuca~~ Bl-wing P.	1				
	1836	Sunset					



DATE 13 Sep 65
Pg.# 1

Nocturnal Observations

	time	species	#	dir.	hgt.	remarks	loc.
	1836	begin obs					
	1842	SDS?	3	S			
	1900	SS	1	S			
	1901	SS	2	S			
©	1909	SS	2	S			
	1910	SS	1	S			
	1944	shear-petrel	1	N		white underparts	
	2000	end observations					

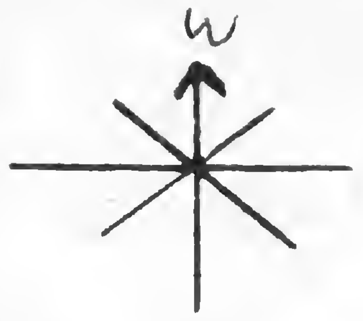


Noon Position: 5°10'N; 175°48'W

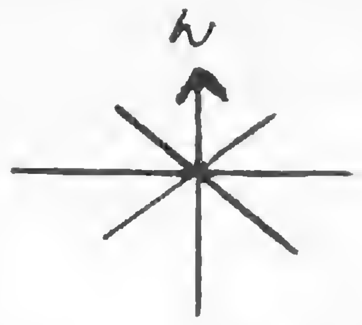
DATE ~~Sep 9~~ 14 Sept 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0615	Begin Observations					
0616					Rain squalls all around ship – heavy (100%) overcast.	
0620	Sooty Shear	3	S			
0631	Sooty Shear	2	S			
0637	C.I. shear?	1	E			
0634	Sooty Shear.	3	S			
0640	" "	2	S		1 seen very well – light underwing.	
0643	" "	5	S			
0645	" "	1	S			
0647	" "	8	S-SE			
0650	" "	1	S			
0653	" "	4	S			
0700	" "	3	S		heavy rainsquall to west & S.	
0701	" "	1	S			
0702	" "	1	S			
0704	" "	5	S			
0705	" "	1	S			
0707	" "	4	S			
0708	" "	3	S			
0708	Wedgetail	2	↻		dark	
0710	Sooty Shear	6	S			
0712	" "	10	S			
0713	Long-T. Jaeger	1	S			
0714	Sooty Shear	4	S			
0718	" "	2	S			
0718	Wedgetail	3			dark	
0720	Sooty S.	9	S			
0722	" "	2	S			
0723	Wedgetail	1	S			
0724	Sooty Shear	2	S			
0726	" "	7	S			
0727	" "	9	S			
0728	" "	16	S			
0730	wedgetail	1	E		dark	
0731	Sooty Shear	1	S			
0740					Rain squall to N and S. No more sooties – seems possible they won't travel through a squall.	~~This might~~
0750					ship entering squall.	
0752	Sooty Shear	2	S			
0800	Wedgetail	1	↻		dark phase	
0810	Sooty Shear	1	S		white underwing	
0815	Wedgetail	1	E		dark phase	
0816	Sooty Shear	1	SE			
0820	Wedgetail dph	1	SE		DARKPHASE	
0823	Sooty Shear	1	SSW			rain
0825	Sooty Shear.	2	S		Heavy overcast + rain.	
0827	Sooty Shear	1	S			
0830	Sooty Shear	1	SSW			
0840	Sooty Shear	1	E		Prob. avoiding ship	

SIC 9
DATE 14 Sept, 965
Pg. # 2



	time	species	#	dir.	hgt.	remarks	loc.
	0842	Sooty? Shear	2	S		RAIN	
	0842	Wedgetail	2	W		dark phase	
	0843	Sooty? Shear	1	S			
F	0848	Sooty Shear.	~~#~~5	S			
	0850	Wedge-tail	1	SSW		Dark phase	
	0851	Sooty Shear.	2	S			
	0855	S-Bill? Shear	1	S		close look - no~~t~~ white underwings	
	0910	Sooty Shear.	1	S			
F	0913	Sooty? Shear.	6	S			
	0925	Sooty? Shear	1	S			
	0929	Sooty Shear	3	S			
	0931	Sooty Tern	1	S		immature	
	0934	Sooty? Shear.	1	S			
	0935	S-B? Shear	1	S			
F	0942	Sooty? Shear.	8	S			
F	0947	Sooty? Shear	8	S		one had white underwing	
	0950	Wedgetail	1	.		on H2O Dark phase	
F	0954	Sooty? Shear.	14	S			
	0956	Sooty? Shear	1	S			
F	0958	Sooty Shear	5	S			
F	1000	Sooty? Shear	10	S			
	1004	Sooty Shear	3	S			
	1006	Slender-bill?	1	S			
	1008	Sooty? Shear	2	S			
F	1012	" " "	6	S			
	1016	" " "	2	S			
	1018	Wedgetail	2	N		dark	
	1020	Sooty? Shear	1	S			
	1024	" " "	1	S			
	1025	" " "	1	S			
	1030	Sooty Shear	7	S		at least 4 with light underwing	
	1038	Shear-Pet	1	S		Palefoot? Slow, leisurely flight like dark wedgetail but appeared longer with straighter broad wings	
	1040	Sooty Shear	1	S			
	1045	Wedgie	2	W		dark	
	1050	Sooty Shear	2	S		visibility cut to ca. 1 mile	
	1058	Wedgetail	1	N		dark	
	1114	Christmas Is.	2	←o→		got off water	
	1120	Sooty? Shear	16	S		fairly close + good views - no silver seen	
	1122	Wedgetail	2	N		dark	
						visibility picking up fast	



DATE 14 Sept. 65
Pg. # 3
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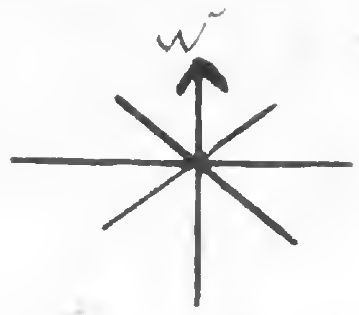
time	species	#	dir.	hgt.	remarks	loc.
1135	P. externa	1	NE			
1135	Sooty Shear	13	S			
1142	P. leucoptera	1	N		very dark head + neck contrasting sharply with pale back; "W" indistinct; underwing border medium, "blurred", no slash. black extended onto side of face behind eye, almost as cap	67 46 ~~29~~ 21 2
1148	sooty? Shear	10±	S			
1150	" " "	10	S		close; none showed silver linings	2
1158	Sooty? Shear.	6	S			
1159	Sooty? Shear	1	S			
1203	" "	15	S			
1205	" "	5	S			
1205	" "	9	S			
1205	Sooty Tern	1	S			
1215	Sooty? Shear	97+	S		spread out, covered ca 60° of arc of horizon - many probably missed	
1215	"	25	S			
1216	" "	1	S			
1218	" "	25+	S			
1218	" "	1			flew in and sat on H_2O in front of ship, flushed when about 30 yds. out	
1220	"	20	S			
1223	" "	2+	SW			
1224	" "	9	S			
1225-30	" "	98+	S		one large group of 60, scattered smaller groups streaming by	
1230-35	"	85	S			
1235	Kermadec P	1	E		intermediate (dark breast, white belly)	
1235-40	SS	85	S			
1240	Wedgetail	1	E		dark	
1240-45	SS	113	S			
45-50	SS	111	S			
50-55	SS	71	S			
55-1300	SS	112	S			
1300	BWR	1	E			
1300-05	SS	120	S			
05-10	SS	115	S			
10-15	SS	132	S			
15-20	SS	83	S			
20-25	SS	72	S			
25-30	SS	67	S			
30-35	SS	69	S			
35-40	SS	109	S			
40	Wedgetail	1			dark	
40-45	SS	158	S			
45-50	SS	159	S			
50-55	SS	109	S			
55-60	SS	131	S			
1400-05	SS	193	S			
1403	Bulwers	1	NE			
1407	Xmas Is	1	S			



DATE Sic 9 - Sept. 14, '65
Pg.# 4

174
58
232

57
7

time	species	#	dir.	hgt.	remarks	loc.
1405-10	SS	121	S			
10-15	SS	194	S			
1418	Ruddy Turnstone	1	Ⓟ			
1420	P leucoptera	2				
1415-20	SS	150	SW			
1420-25	"	111	SW			
1425	P. leucopt.	1			very dark.	
1430	SS	65	SW			
1430	P. leucoptera?	1				
1430-35	S.S.	174	SW			
1435-1440		159	"			
1440-45		78	"			
1445-50		37	"			
1450-55		152	"			
55-60		190	"		collected	
1500-05		30	"		turning to pick up shot SS	
1505-10		72	"			
	wedgetail	1				
1510-15	Sooty Shear	123	SW			
1515-20	" "	63			ship stops to retrieve bird.	
	JFP	1			coll. (gaylord)	
1525-1530	Sooty Shear.	136	SW			
1530-1535	S. S.	65	SW			
1538	P. LEUCOPTERA	1				
1535-40	Sooty shear	121	SW			
1540-45	" "	144	SW			
1545-50	" "	92	SW			
1550-1555	" "	106	SW			
1555-1600	" "	116	SW			
1600-05	" "	177	SW			
1605-10	" "	64	SW			
1610-15	" "	31	SW			
-20	" "	143	SW			
1620	Wedgetail	1			dark - coll., Fleet + Crossin	
1620-25	Sooty Shear	240	SW			
25-30	" "	300	SW			
30-35	" "	76				
1635-40	" "	130				
1640-45	" "	125				
45-50	" "	27				
50-55	" "	15				
55-60	" "	6				
1700-05	" "	173				
05-10	" "	121				

SIC 9

DATE 14 September 1965
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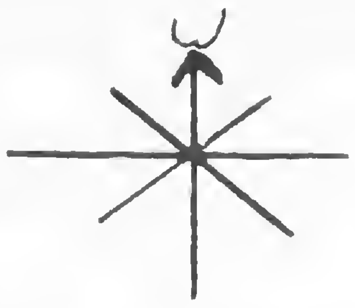
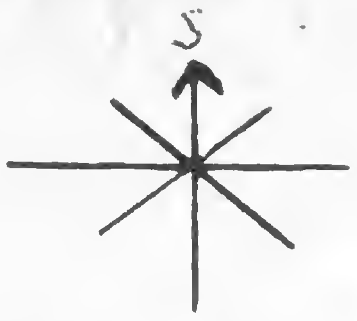


46

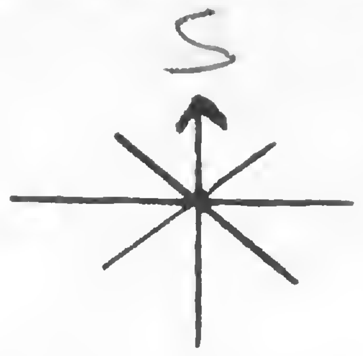
time	species	#	dir.	hgt.	remarks	loc.
1710	Wedgetail	1	N	—	dark phase	
1710-15	SS	180	S	—	one collected RC	
1715-20	Sooty Shear	25				
1720-25	''	238	SW		Most seen close had white wing linings.	
1725-30	''	100	SW			
35	''	280	SW			
1735	~~Sooty Shear~~	1		—	an H_2O collected ~~dark phase~~	
1735	L-T? Jaeger	1				
1735-40	S. Sooty Shear	300	SW			
1740-45	''	110				
1745	Wedgetail	1	S	—	dark phase.	
1745-50	Sooty Shear	272				
1750-55	''	72				
1751	frigate sp	1	E	200'	♀	
1755-60	Sooty Shear	55				
			—	—	1800 – ship heading South —	
1805	Sooty Shear	6	S			
1815	''	7	S			
1823	''	1	S			
1831	''	1	S			
1835-40	''	250+	S	—	steady shear, from horizon to horizon fore & aft, singly & flocks up to 30 birds.	
1842	''	80+	S			
1843	Bulwers	1				
1843	Shear Pet	1	E		Pale-foot or Kermadec; very languid drifting flight, little flapping; appeared all dark	
1843	—	—	—	—	Sunset	
~1848	Sooty? Sh.	75				
1855	'' '' ''	40				
1900	'' '' ''	~20	—	—	DARK	
2000	—	—	—	—	WATCH secured.	



Noon Position: 2°18'N; 176°25'W

DATE 15 Sep65
Pg.# 1

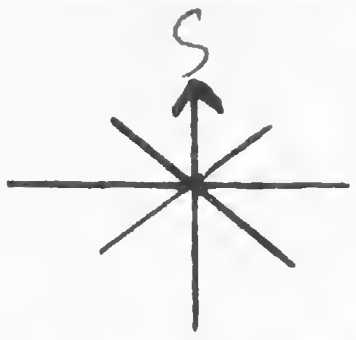
time	species	#	dir.	hgt.	remarks	loc.
0625	begin observations					
0630	SS	4	S			
0631	SS	7	S		scattered	
0635	SS	12	S		scattered	
0636	SS	5	S		"	
0636	—				sunrise	
0639	SS	26	S		scattered	
0639	SS	23	S		"	
0642	Wedgetail	1	S			
0642	SS	4	S			
40-45	SS	45	S			
45-50	SS	53	S			
50-55	SS	64	S			
0655	Wedgetail	1	N		dark	
55-60	SS	52	S			
0700	Wedgetail	1	N		dark	
00-05	SS	73	S			
0705	Wedgetail	1	N		dark	
05-10	SS	67	S			
0710	shear Pet	1	~~E~~ N			
10-15	SS	56	S			
0712	shear/pet	1	N			
15-20	SS	106	S			
0720	Sooty Tern	3	N			
20-25	SS	45	S			
25-30	SS	80	S			
30-35	SS	49	S			
35-40	SS					
		36	S			
0742	WTTB	1	N			
40-45	SS	31	S			
0746	sooty tern	2	N			
45-50	SS	74	S			
0753	RUDDY TURNS	1	↻			
50-55	SS	72	S			
55-00	SS	85	S			
0800-05	SS	77	S			
05-10	SS	22	S			
0814	Wedgetail	1	N		dark	
10-15	Sooty Shear	34	S			
15-20	" "	33	S			
0822	Golden Plover				circled ship. Heavy molting on breast to winter plumage.	
20-25	Sooty S.	49	S			
25-30	" "	77	S			
	WTS (dark)	1				
30-35	Sooty S	30	S			
	P. hypoleuca	1	N			
35	WTS (dark)	1	E			
35-40	SS	15	S			



SIC9
DATE 15 Sept 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0840-45	S. S.	29	S			
45-50	" "	49	S			
50-55	" "	40	S			
55-0900	" "	35	S			
0900	WTS (dark)	2	↓			
0900-05	Sooty S.	40	S			
05-10	" "	59	S			
10-15	" "	55	S			
	WTS (dark)	1	↑			
15-20	Sooty S.	55	S			
	Sooty Tern	1	S			
20-25	Sooty S.	50	S			
25-30	Sooty Shear	62				
0930	S-B Shear	1			collected-D. Hec[illegible]	
30-35	Sooty S.	95	S			
	Sooty T.	1	NE			
35-40	Sooty Shear	95	S			
40-45	" "	42	S			
45-50	" "	39	S			
50-55	" "	23	S			
55-1000	" "	20	S			
1005-10	"	36	S			
10-15	"	59	S			
15-20	"	103	S			
20-25	"	58	S			
25-30	"	90	S		port only	
30-35	"	8	S			
37	~~[illegible]~~ G. Plover	1				
35-45	Sooty Shear	63	+ S		port only	
46	Sooty Tern	4				
45-50	Sooty Shear	63	+ S		port only	
50-55	"	35	+ S		~~port only~~	
53					fish ball with net	

SEC 9



DATE 15 Sept 1965
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1100	SS	20	S			
1100-05	Sooty Shear	33	S			
1100	Jaeger (sp)	1	W			
1105-10	Sooty Shear	21	S			
10-15	''	39	S			
15-20	''	42	S			
20-25	''	27	S			
25-30	''	21	S			
30-40	''	40	S			
40-45	''	21	S			
1150	shear-petrel	1	N			
1151	shear petrel	1	N			
1150-55	SS	6	S			
55-60	SS	~~27~~ 40	S			
1200-05	SS	29	S			
05-10	SS	8	S			
1210	BWP	1	N			
1210-1215	SS?	20	S			
FF 1215	Sooty Tern	9	N		1-2 adult	
	Wedgetail	2			dark	
1215-1220	Sooty Shear	2			~~marine mammals~~ spinning porpoise	
1220						
1220-25	Sooty Shear	10	S			
1223	Sooty Tern	1	NW			
1225-1230	SS	26	S			
	Bulwers	2				
1230-35	SS	74	S			
1235-40	''	8				
	Wedgetail	1			dark	
1240-45	SS	90				
	Sooty ~~Shear~~ Tern	2	SE			
1245-50	SS	87	S			
50-55	SS	72	S			
1255-1300	''	70	S			
05-10	SS	89	S			
13 10-15	''	65	S			
15-20	SS	40	S			
20-25	SS	22	S			
25-30	SS	45	S			
30-35	SS	17	S			
35-40	SS	50	S		heading into large squall	
40-45	SS	101	S		'' '' '' ''	
45-50	SS	15	S		'' '' '' ''	
50-55	SS	38	S		'' '' '' ''	

Sec 9

DATE 15 Sept 65
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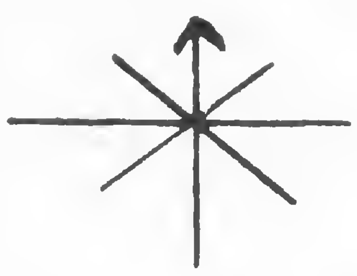
time	species	#	dir.	hgt.	remarks	loc.
1355-60	SS	34	S		heading towards rain squall to South	
1400-05	SS	20	S		1 sitting	
1405	Bulwers P	1	S		light brown wing bars	
05-10	SS	14	S			
10-15	SS	23	S		rain squall	
15-20	SS	8	S			
1420	Wedgetail	1	SW		dark	
20-25	SS	12	S			
1427	pale-foot. ~~Wedgetail~~	1	E		dark	
1425-30	SS	16	S			
1430-35	SS	86	S			
35-40	SS	13	S			
FF 1445	Sooty Tern	50			25 immature 1 collected	
	Fairy Tern	2				
	Wedgetail	30			29 dark phase 1 light 1 collected	
	Frigate	1				
1445-50	SS	103	S		passed right by feeding flock	
50-55	SS	67	S			
1500	SS	3	S			
1500	Wedgetail	1	SE		dark	
1504	Wedgetail	1	N		dark	
00-05	SS	118	S			
1507	Wedgetail	2	NE		dark	
1505-10	SS	40	S			
1510-1515	SS	36	S			
15-20	SS	32	S			
1522	Sooty Tern	1	E			
1523	Petrel sp.	1			all dark, wedgetailed size	
1520-25	SS	53	SE-E		apparently changed course to avoid rain squall to SW and W.	
1525	Bulwers	1			wing bars much lighter than northern birds.	
1530	SS	53	SE-E		ship still in squall. These observations are of birds traveling on ~~S~~ and ~~NE~~ border of squall off stern of ship.	
1530 1533	SS	140	SE-E			
1538	SS	5	SE		came out of squall.	
1542	Sooty Tern	1	SE			
1542	SS	14	S			
1545	SS	2	S			
1550	SS	2	S			
1620	shear-pet.	2	S			
1622	Wedgetail	1	E		light phase.	
1630	"	1			on H_2O	
1630	Pomerin Jaeg	1	S		light	
1632	Sooty Shear	2	S			
1638	~~So~~ " "	1	S			
1647	shear-pet	1	S			
1652	black-wing pet.	1	NWCASW			
165[illegible]	Long-t. Jaeger	1	E		dark phase, showed a little white on lower belly	
1658	small petrel	2			too far to identify - may have been bulwer.	

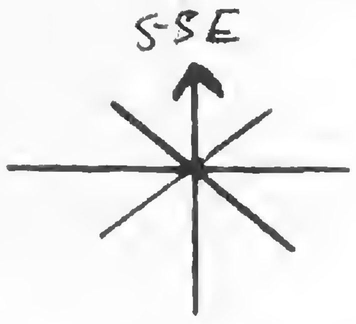
S



Sic 9

DATE 15 Sept 1965
Pg.# 5

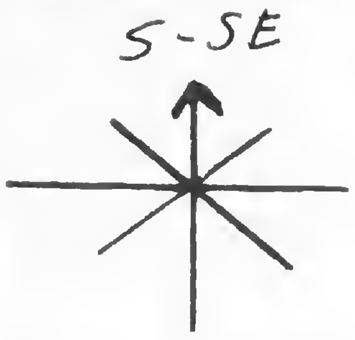
time	species	#	dir.	hgt.	remarks	loc.
1700	Sooty shear	2	S			
1704	wedgetail	1	E			
1705	sooty shea	1	S			
1707	Sooty Tern	4	N			
F 1710	Sooty Shea	5	S			
F 1715	"	10	S			
1721	Bulwer's	1				
1721					Rain squalls - except N + NE Horizon.	
1727	Sooty shear	15	SE			
1728	Golden plover	1	SW			
1730	Sooty Shear	60	S			
1730 - 1735	" "	67	S			
1735 - 1740	" "	23	S			
1740 - 1750	" "	95	S			
1750 - 55	" "	59	S			
1755 - 1800	" "	37	S			
1800 - 1805	" "	17	S			
1805 - 1810	" "	12	S			
1821	" "	1	S			
1827	" "	4	S			
1846					Sunset.	



Noon Position - Baker Island
00-11-N 176-29W

DATE 16 September 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0745	BEGIN OBSERVATIONS - Just leaving Howland Island.					
0750	Frigate Sp.	17	over	Howland.		
0752	Brown Booby	1	over	ships	◎	
0752	B F Booby	1		"	"	
0753	"	1	W	out	from island	
0754	Brown Booby	2	S	"	" " 1 ad. 1 imm.	
0754	BFB	1	◎	imm.		
0755	BFB	1	W	out	from island ad	
0759	BFB	2	SW	"	" " ad's.	
0808	Booby Sp.	1	toward		Howland at 50ft+	
0820	SS	2	S			
0826	Frigate sp.	3			diving	
0828	Brown Booby	1			sub-adult - came from astern	
0830	" "	1			adult, joined bird of 0828 in circling ship	
0835	Booby Sp.	1	S		on horizon	
0835	Sooty Shear	1	S			
0835	Ruddy tern	2	——	——	circling ships	
0840	Sooty Shear	29	S	——	compact flock	
0842	" "	9	S	——	" "	
0845	" "	6	S	——	" "	
0846	" "	46	S	——	ca 35 in compact flock, others strung out behind	
0851	" "	27	S	——	compact flock	
0854	" "	3	S			
0857	" "	36	S	——	strungout	
0859	" "	21	S		" "	
0900	Br. Booby	1	S	over ships - ad.		
ff 0900	Sooty tern	100		——	Feeding flock - very intensive feeding, skii jumping rain squall passing over entire area. Terns circling on two	
	Frigate sp	2				
	BFB	2				
	BB	2				
	RFB	4				
	Wedgetail	4				
0900	Sooty term	165		——	circling high - parts of this flock eventually merged with other above, birds then began flying back and forth. one segment went off still high and circling.	
0900	Sooty Shear	20	S	passed near	feeding birds, but did not participate.	
0903	" "	20	S			
0905	" "	9	S			



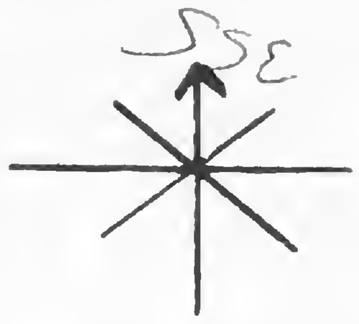
DATE 16 September 1960
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0913	Sooty Shear	17	S	—	3 separate compact groups - all dark under wing	
0916	Sooty Tern	3	SE			
0922	Sooty Shear	10	S	—	compact flock	
0924	" "	40	S		" "	
0925	" "	8	S		" " milling	
0926	" "	30	S	—	strung out	
0927	" "	13	S		" "	
0929	" "	9	S		" "	
0930	" "	11	S		compact flock	
0930	" "	6	S		" "	
0932	" "	55	S		~~strung out~~	
0934	" "	78	S		strung out	
0936	" "	146	S		" "	
0940	" "	79	S		all underwings seen clearly were dark	
0942	" "	60	S		"	
0943	" "	91	S		strung out	

0943 — Rain squalls everywhere
very heavy concentration of Sooty Shear before squall enveloped ship none seen during intense squall period.

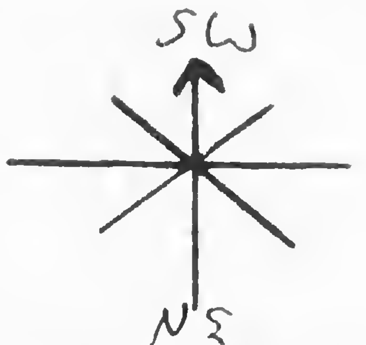
time	species	#	dir.	hgt.	remarks	loc.
0951	Sooty Shear	17	S	—	came out of heavy squall that we just passed thru.	
0954	" "	66	S	—	strung out - came thru rain squall.	
1010	" "	35	S		after rain squall	
1012	Br. Thighed Curlew	3	—	—	came from N - circled ship several times	
1014	Pomarine Jaeger	1	—	—	circled behind ship - landed on H2O	
1014	Sooty Shear	13	S			
1014	Sooty Tern	2	—	—	1 N, 1 S	
1017	Sooty Shear	96	S			
1017	Blue-faced Booby	1	N		adult	
1020	Sooty Shear	89	S	—	strung out	
1022-27	" "	417	S		steady stream, sometimes strung out, sometimes compact	
1028	" "	112	S			
1030	" "	63	S			
1034	" "	14	S			
1036	" "	2	S			
1038	wedgetail	1	N	—	dark phase	
1040	Sooty Shear	45	S			
1040-50	" "	1013	S			
FF 1050	Sooty Tern	50	—	—	at first swirling up high, then started feeding actively	
1055	Sooty Shear	6	S			
1100	" "	83	S			
1107	" "	180	S		raft of 800 or so sitting on water, flushed at considerable distance	

Baker I. becomes visible and birds seen settled on water and milling in all directions before taking off to SE around island



DATE 16 Sep 65
Pg.# 3
Sci 9

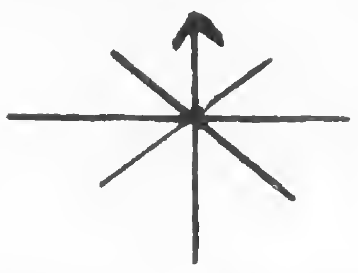
	time	species	#	dir.	hgt.	remarks	loc.
	1118	Sooty Shear	1000	S		rainsqualls to SE + SW as we approach Baker heading past Baker on west side of island a mile or so offshore	
	1120	" "	50	S		~~on~~ heading toward east side of island	
	1125	Black-winged P.	1		-		
	1120-30	Sooty Shear	1500++	S		ca. 150 per minute streaming past ship all seem to be swinging east and milling in front of island	
	1230-40	" "	1500++	S		most birds going toward island make a wide sweep east to go around it.	
	1244	" "	230			numbers now tapering off as we approach island.	
	1251	" "	3	E around		island.	
1252						Baker Island now 0.6 mile away — Stop observations momentarily to get shore party off.	
SW NE	1300					resume observations	
	1300-10	Sooty Shear	1000			100 per minute around west side of Baker practically none with silver underwing	
FF	1305	Sooty Tern Frigate	500 8				
FF	1307	Sooty Tern Frigate Brown Booby Wedgetail	25 16 1 1		dark		
	1310-15	Sooty Shear	200	S		40 per minute practically none with silver underwing	
	15-20	" "	500	S		100 per minute " " " "	
	20-25	" "	400	S		" " " "	
FF	1322	Sooty Tern Wedgetail Frigate BFB Brn. Booby	~~[illegible]~~ ±475 3 3 4 1			Feeding - Flock split up 200 immature 1 light, 2 dark Tuna jumping below, feeding	
	1326	Sooty Tern Frigate	22 1			travelling to previous flock.	
	1332	Sooty Shear	1	S		silver underwing	
	1332	Sooty Tern	1	E		imm	
TF	1335	Sooty Tern	24	E			
	1340	Sooty Shear	15	S			
	1340-45	Sooty Shear	104	S		mostly all dark underwing	
	45-50	" "	250	S			
FF	1354	Sooty Tern	26				
	1355	Sooty Shear	50	S			



DATE 16 Sep 65
Pg.# 4
Sta 9

	time	species	#	dir.	hgt.	remarks	loc.
	1355 1400	Sooty Shear	140	S		mostly dark underwing	
	00-05	" "	100	S			
	05-10	" "	70	S			
	10-20	" "	400	S		steady stream going by on both sides of ship.	
	1422					Several whales spouting ca 3/4 mi to E	
	20-25	" "	800	S			
	25-30	" "	850	S			
	30-35	" "	850	S			
	1435	Bl.-winged Pet.	1	E			
	1440	Sooty Shear	250	S		numbers now tapering off rapidly	
	1441	Sooty Tern	60	S-SW		most birds high, no feeding activity noted.	
	41-45	Sooty Shear	75	S		numbers still decreasing rapidly.	
	45-50	" "	120	S		" picking up slowly again	
	1450	Fairy tern	1	W			
	50-55	Sooty Shear	110	S			
	55-60	" "	180	S			
	1500-05	" "	100	S			
	1507	RTTB	1			on H2O	
#1441 C	05-15	Sooty Shear	250	S		1 coll RSC	
	25-35	" "	200	S			
	35-40	" "	110	S			
#1442 C	1540	" "	1			coll. RSC	
	1550	" "	32	S		numbers dwindled to practically nothing.	
	1552					1 Porpise + N verylarge off starboard side. Actually	
	50-60	" "	180	S		numbers picking up again	
	1600-10	" "	85	S		the stream is probably quite continuous, but it may	
	10-20	" "	80	S	small groups	well shift out of vision and back again. All birds	
1443 C RSC	1624	Golden Plover ~~[illegible]~~	1	S	collected	definitely split and go to either side of ship at great distance. only by running ship across	
	1632	Sooty Tern	20	N	~~scattered~~ flock	their line of flight is it possible to shoot one.	
	1635	Sooty Shear.	55	S			
	1642	" "	11	S		scattered.	
	1650	" "	6	S		"	
	1733	Sooty tern	200			high, milling. flock then split and most went	
		BFB	1			west low over H2O, rest (ca 40) went very high	
		Wedgetail	9	all dark		> 3/4 mi, flew high thusly for some 10 minutes and all came down low on H2O and started feeding	
	1740	Sooty Shear	9	S			
	1803	Wedgetail	1	W	dark		
	1803	Sooty Shear	19	S	—		
	1805	" "	15	S			
	1810	P. ~~[illegible]~~ hypoleuca	1	one collected RSC		seemed large, flight less snappy than normal hypoleuca but not seen in very good light although back appeared dark	
C FF	1815	sooty tern ~~out of flock~~	60				
		wedgetail	3	dark		flock feeding then scattered some going very high.	

S-SW



DATE 16 September 1965
Pg.# 5

time	species	#	dir.	hgt.	remarks	loc.
1830	Frigate Sp.	1	○		circling high	
1830	Sooty tern	12	○			
1834	" "	1	NE			
1840	Golden Plover	1	SW			14985 SS 1584 ST
1840	Sooty Shear	1	S			
1843	Sooty tern	1	SE		sunset	
1846						
NIGHT Observations						↓
1945	Shearpet	1	S			
2000	" "	1	N			
2005	Shear-Pet	1	S			
2128	shear-pet	2	S		small, white bellied, probably P. hypoleuca type	
2200	end observations					

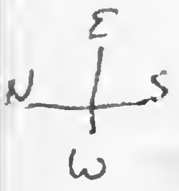
N - NW

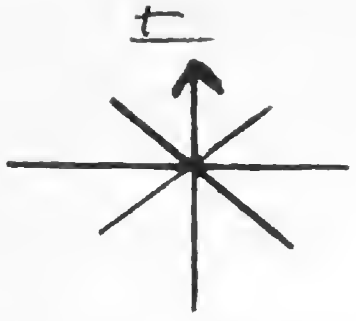
NW
N
NNE
ENE
ESE

Noon Position: 1°19'N; 177°08'W

DATE 17 September 1985
Pg.# 1

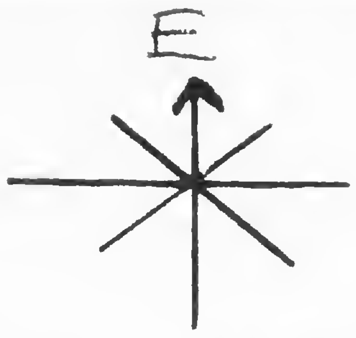
SSE

	time	species	#	dir.	hgt.	remarks	loc.
	0630	BEGIN OBSERVATIONS					sea rather calm rolling swells, scattered clouds.
	0631	sooty Shear	1	S			
	0640					SUNRISE	
	0641	wedgetail	2	S		arching - dark phase	
	0648	"	1	S		dark phase	
	0653	sooty tern	1	S			
	0653	shear Pet	1	E		all dark, possibly 4-5" larger than wedgetail, heavy lumbering flight, heavy bodied.	
	0659	Sooty tern	2	N		fast direct flight	
	0707	Wedgetail	1	S		dark phase	
	0711	"	1	S		" "	
TF	0715	sooty tern Wedgetail	5 1	ENE		Terns up some distance, wedgetail moving under them	low on H_2O
	0721	sooty tern	3	NE		in direction of above 5	
	0728	" "	2	E-NE		direct flight	
	0730	" "	2	E-NE		" "	
	0734	" "	2	" "		" "	
	0735	wedgetail	1	" "		" " dark phase	
TF	0746	Sooty tern	6	" "		" "	
	0748	" "	1	" "		" "	
	0753	" "	3	" "			
	0758	" "	2	" "			
	0802	Wedgetail	1			dark	
	0805	Sooty Tern	3	ENE			
	0806	Sooty Tern	1	◎			
	0806	tropicbird sp	1				
	0807	Sooty Tern	3	NNW			
	0808	Sooty Tern	3	ENE			
	0814	Sooty Tern	2	ENE		immature	
	0815	Wedgetail	1	NNE		dark	
	0820	Phoenix I / Tahiti Petrel	1	ENE		long wings - dark underwing with very faint light center line - upper breast dark, rest of breast + belly white	
	0830					Ship turns east	
	0848	Golden Plover	1	S	returned at 955	breast mottled black + white	
	0852	shear-petrel	1	S			
	0916	Golden Plover	1	S			
	0930	Noddy Tern	1			sitting on small floating object.	
	~~0934~~	~~"~~					
	0930	Noddy Tern	1			collected by Husted from stern	
	0930	Noddy Tern	1			hit over head with gun barrel by Gaylord on stern ensign	
	0940	Wedgetail	1		dark		
TF	0953	Sooty Tern	6	W		one turned and went E	
FF	1006	Sooty Tern Fairy Tern Frigate	100 ±20 5 1			lifting and dispersing in distance	



DATE 17 September 1965
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1100					few whales spouting to ~~S~~E.	
c	1126	Ruddy Turnstone	1	◎		coll 1st Engineer	
	1153	RTTB	2	◎		200 yds out from ships	
	1218	Bulwer's Pet.	1	W		then settled on H_2O	
	1228	Black Winged Pet	1	W			
	1255	Wedgetail	1	SW		dark	
	1307	"	1	SW		"	
	1311	"	1	E		"	
	1351	BFB	1	SE		ad - passed over ship about 15 ft. up.	
	1423	Leaches S. Pet?	2	E		1 had a white rump, the other I couldn't see a white rump	
	1442	shear petrel	1				
	1445	Sooty Shear	2	S		dark underwings	
	1505	Pom Jaeger	1	E		Flushed - white underparts w/dark breast band	
	1535	Sooty Tern	3	NE		1 immature	
	1555	BFB	1	NE			
	1557	Black Winged Pet	1	SW			
	1600	BFB	2	N		low to water	
FF	1635	Sooty Tern	180	I8		~~[illegible]~~ 10 or so immatures	
		Wedgetail	3			dark some active feeding in distance then rose & dispersed	
		Grey-backed Tern	1+				
		Lesser Frigate	1			ad ♂	
		Fairy Tern	1				
		Long tailed Jaeger	1			blue legs seen clearly - white abdomen, rest dark	
		Blue faced Booby	2			adult chasing an adult Sooty Tern	
	1635	Sooty Shear	1	S		passed below flock - white underwing	
	1639	BB	2	○ → S		1 imm, 1 ad.	
		BFB	1	◎ → S		ad	
	1639	wedgetail	1	◎			
	1643	BFB	1	S		ad.	
	1646	Ruddy turn.	1	◎		circled ship.	
	1650	BFB	1	S		ad.	
	1700	"	3	S		ad	
	1704	"	1	S		"	
	1706	"	1	S		"	
	1711	"	4	S		"	
	1716	RFB	1	S		imm whale. dark reddish brown 75 yds out.	
	1725	BFB	2	S		ad.	
C FF	1730	Sooty tern	180			most birds apparently feeding then all went up high - most then disappeared. Caught up to about 30+ Sooty tern and a few Boobies	
		BFB	3				
		Wedgetail	5		dark		
		Fairy Tern	1			1 BFB collected - banded ESC, D.H.	1/20



DATE 17 September 1965
Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1736	Sooty tern	3	S	——	possibly from preceeding flock breakup.	
FF	1750	Sooty Tern	150	±25		1 imm. collected by Crossin 50 immatures	
		Frigate sp	1			imm.	
		Blue-faced Booby	2			adult feeding erratically	
		Wedgetail	8			dark	
		shear petrel	1			white underparts - distant - dark underwing	
	1811	Sooty Shear	1	S		white or silvery underwing	
	1820	" "	1	S		" " " "	
	1839	Wedgetail	1	Q		dark	
	1840	Sooty Shear	1	S			
	1843	" "	1	S			
	1844	——	——			sunset (turn S)	

↓ Nocturnal Observations ↓

1.70
420
.172
762

DATE 17 Sept 65
Pg.#

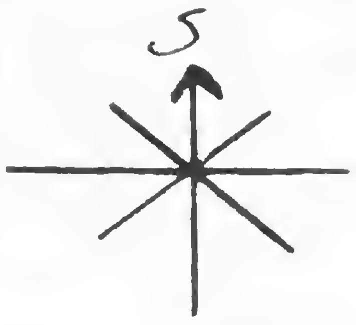
time	species	#	dir.	hgt.	remarks	loc.
NigHT		ObServations				
1844	Sunset					
1850	wedgetail	1	SE			
1857	Sooty Shear	1	S			
1904	" "	1	S			
1920	Shear-Pet	2	S			
1925	Sooty Tern	1	6			
1954	Wedgetail	1	~~~		dark	
2015	SootyTern?	1				
2110	bird	1			sitting in water	
2145	bird	1			may have been Booby	
2145	bird	1			sitting in water	
2200	bird	1			flew by	
2200	end observations					

$$\begin{array}{r} 43 \\ 31 \\ 25 \\ 663 \\ \hline 762 \end{array}$$

Noon Position 0°46'S; 175°50'W

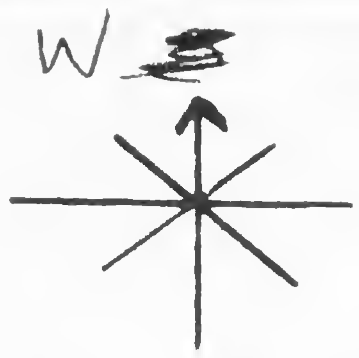
DATE 18 September 1965
Pg.# 1

	time	species	#	dir.	hgt.	remarks	loc.
	0625	Begin Observations					
	0632	Sooty Shear	1	S-SE			
	0636					SUNRISE	
	0643	Sooty Shear	1	S		0645 Ca. 20+ porpoise swimming w/ ship SE	
	0650	wedgetail	1	S		dark phase	
	0650	L. Tailed Jaeger	1	N		dark phase	
	0651	Sooty tern	2	N		direct flight	
	0654	" "	1	N		"	
FF	0659	" "	8	W		light feeding, 2 imm.	
	0723	" "	4	N			
	0728	RTTB	1	◎		imm.	
0730 Turn S							
S	0731	Sooty Shear	2	S			
E ↑ W	0733	" "	3	S			
N	0738	" "	3	SW			
	0743	Wedgetail	2	S		dark phase	
	0747	Long tailed Jaeger	1	NW		dark phase	
	0750	Fairy tern	1	N			
	0752	Sooty tern	1	E			
	0756	" "	1	E			
	0757	" "	3	E			
	0757	Bulwers Pet	1	N			
	0759	Golden Plover	1	◎			
	0801	Sooty Shear	1	S		0803 Ca 30+ porpoise — S	
	0813	Sooty Tern	1	SW			
	0825	Sooty Tern	2	W			
	0835	Wandering Tattler	1	◎			
C	0840	Bluefaced Booby	1	N		collected by Crossin - subadult	
	0840	Frigate sp	1	◎		imm.	
C	0840	Noddy Tern	1	W		collected by Crossin	
	0855	Ptero. leucoptera	2	E			
	0900	Sooty Shear	2	S			
	0940	Sooty Tern	1	◎			
FF	0954	Sooty Tern	75	±5			
		Wedgetail	1			dark feeding very erratically	
	0955	Golden Plover	1	S			
	1006	booby sp	1	S		brown?	
	1007	Wedgetail	1	W		dark	
	1012	Sooty Shear	10	S			



DATE 18 September 1965
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1015	Sooty tern	1	S		imm.	
	1017	Br. thighed Curlew	3	S		250 yds up direct flight	
C FF	1025	Sooty tern	75+	⊕		alternately lifting and dropping to feed. 1 collected RSC	
	1052	Golden Plover	1	⊕			
	1052	Sooty shear	1	S			
FF	1105	Sooty Tern	35			all scattered, generally to E, when ships approached. about 25% imm.	
		Fairy tern	1				
		Wedgetail	1	dark			
	1113	Newells Shear	1	S			
	1115	Sooty Shear	22	S		compact groups	
	1122	" "	1	S			
	1123	Golden Plover	1	⊕			
	1127	sooty shear	15	S			
	1130	wedgetail	1	S		dark phase	
	1158	Golden Plover	1	S			
FF	1215	Sooty Tern	150	±25		40 immature feeding erratically	
		Wedgetail	1			dark	
		WTTB	1			flushed from middle of flock - immature	
	1238	Bulwers Pet	2	F		took off H2O	
FF	1255	Sooty Tern	170	±30			
		Wedgetail	2			dark	
		Blue faced Booby	1			adult feeding erratically	
		Jaeger?	1				
	1311	BFB	1	SW		Travelling	
		Sooty Tern	14				
FF	1320	Sooty Tern	32			12 immature	
		Fairy Tern	4			Feeding	
		Wedgetail	1			dark	
	1337	Black Winged Pet	1	S			
	1342	Sooty Tern	75	N		Travelling fast	
	1420	" "	7	N		direct flight large squall off to SE	
	1438					Squall area now covering entire SE horizon	
	1443	Golden Plover	2	S			
	1444	Shear Pet	1	W			
	1455	Bulwers Pet	1	N			
	1457	Sooty Shear	7	S			
	1551	Shear-Pet	1	S		small, probably a Black Winged Pet.	
	1604					Turned West	
	1618	Sooty tern	80+			entire flock went up high and started dispersing as ship started toward them.	
	1623	Shear Pet	1	N			
	1625					Turn W	



DATE 18 September 1965
Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1625	Sooty tern	3	◎			
	1638	Sooty Shear	9	S			
FF	1658	Sooty Tern	200 ±				
		Wedgetail	3			dark | broke up and scattered upon approach had been feeding.	
		Frigate	1				
		Fairy Tern	1				
	1708	Sooty Shear	1	S			
	1723	" "	1	S			
	1737	Sooty tern	1	N			
	1738	Sooty Shear	13	S			
	1748	Sooty Shear	2	S			
	1752	———		2	pair	humpback whales heading W	
	1754	Golden Plover	1			mottled breast	
	1756	Sooty tern	2	N			
FF	1815	Sooty Tern	175 ±25			distant	
		Wedgetail	1			dark - heading toward flock	
C.	1836	Ruddy Turnstone	1	◎	— coll.	D. Hughes ♂	
	1843	———				Sunset	

DATE 18 Sept 65
Pg. #

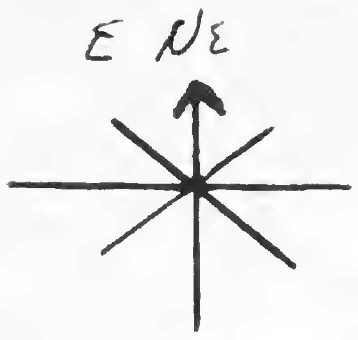
Night Observations

time	species	#	dir.	hgt.	remarks	loc.
1843	———	—	——	——	sunset	
1847	Wedgetail	1			dark	
1905	Sooty Tern	3	S			
2040	Bird	1	W			
2158	Sooty Tern/ tropicbird	1	NW?			
2200	end observations					

Noon Position 0°04'N; 178°00'W

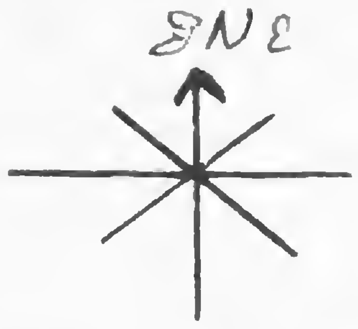
DATE 19 Sep 65
Pg.# 1
SIL 9

time	species	#	dir.	hgt.	remarks	loc.
0638	Sooty Shear	1	S			
0640	Sunrise					
0650	Sooty Shear	2	S			
0653	Sooty Shear	1	S			
0701	Sooty Shear	3	S		at least 1 with silver underwing	
0702	Wedgetail	1	m		dark	
0705	Sooty Shear	2	S		no silver	
0709	"	5	S			
0715	"	5	S			
0718	"	3	S			
0723	shear/petrel	1	SE			
0734	~~Sooty~~ Tern	1	SE			
0738	Sooty Tern	1	SE			
0739	Sooty Shear	1	S			
0740	Sooty Tern	1	◎			
0741	"	1	◎			
0742	Sooty Shear	2	S			
0745	"	3	S			
0746	"	3	S			
0807	"	4	S			
0807	Sooty Tern	2	NE			
0814	Sooty Shear	5	S		extensive light underwings	
0824	Wedgetail	1	E		dark	
0830	Sooty Tern	3	E			
0840	Wedgetail	1	SE		dark	
0842	Sooty Tern	1	E			
0844	Sooty Tern	3	NW			
0845	Wedgetail	1	NW		dark	
0847	Sooty Shear	11	S			
0851	" "	3	S			
0911	" "	4	S		very light underwings	
0915	" "	7	S			
0926	Wedgetail	1	NW		dark	
0942	Golden Plover	1	◎			
0945	Sooty Shear	2	S		silver underwing	
0957	" "	1	S		" "	
1015	" "	11	S		"	
1049	Wedgetail	1	N		dark	
1053	Fairy Tern	1	W			
1100	Wedgetail	1	NW		dark	
1104	Sooty Tern	1	SE		immature	
1105	Sooty Shear	1	S		silver underwing not present	
1120	" "	12	S		" " Present	
1124	Fairy Tern	1	W			
1130	Changed	course		to	062	



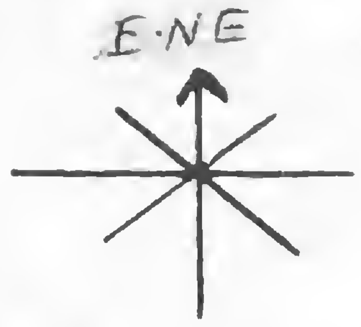
DATE 19 sept 65
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1140	sooty Shear	7	S			
	1145	"	5	S			
	1148	"	6	S			
	1150	comm. noddy	1			sitting on piece of floating board	
	1156	Sooty Shear	4	S		light underwing	
	1157	noddy	3	N		direct flight	
	1200	sooty shear	1	S		light underwing	
	1203	" "	7	S		" "	
	1204	WTTB	1			flew from H_2O	
	1206	Sooty Shear	6	S		light underwing	
	1210	Golden Plover	1	◎			
	1218	Sooty Shear	4	S			
	1220	"	5	S			
	1221	"	1	S			
FF	1225	Sooty Tern	75	±10		20 immature	
		wedgetail	4			dark erratically feeding	
		Long tailed Jaeg	1			dark	
	1225	Sooty Shear	40	S		several had silver underwing - others didn't	
	1232	Wedgetail	2		dark		
	1235	Sooty Shear	6	S			
FF	1235	Sooty Tern	10			distant	
	1236	Sooty Shear	3	S			
	1240	Sooty Tern	1	S			
	1241	Sooty Shear	1	S			
	1245	"	16	S		none with silver underwing	
	1249	"	7	S			
	1252	"	14	S		bunches of 2s + 3s scattered	
	1255	"	3	S		all with silver underwing	
FF	1300	Sooty Tern	15			feeding halfheartedly	
FF	1302	Sooty Tern	29				
		Frigate sp.	1			♀ circling high	
	1305	Sooty Shear	2	S			
	1306	"	4	S			
FF	1310	Sooty Tern	75				
		Frigate sp	1				
		Wedgetail	2			dark all feeding very erratically, estimates undoubtedly low - birds scattered everywhere over large area, little sub-flocks forming and dispersing before they can be counted. No heavy feeding at all but lots of birds. Its as if they had nowhere else to go. All heading generally South to southeast	
	1311	Bulwer's P	1				
FF	1311	Sooty Tern	150			distant	
FF	1312	Sooty Tern	75				
		Fairy Tern	1				
	1320	Sooty Shear	27	S			
	1321	WTTB	1			adult	



DATE 19Sep65
Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1321	Blue Faced Booby	1	E			
FF	1325	Sooty Tern	50			completely dispersed by the time the ship arrived.	
	1330	Sooty Shear	25	S		none of 9 which came close had silver underwing	
TF	1331	Sooty Tern	4	S		adult	
		Noddy	1				
	1335	Sooty Tern	2	S			
	1336	Sooty Shear	12	S		scattered, distant	
	1340	"	28	S		4 coming near ship had silver underwing	
	1345	"	10	S		5 coming close had silver underwing	
	1350	"	12	S			
	1355	"	33	S		1 coming close had no silver	
	1400	"	40	S			
	[illegible]05	"	39	S			
	1408	Fairy Tern	1	S			
	1410	Sooty Shear	47	S			
	1415	" "	31	S			
	1420	" "	33	S			
	1421	Sooty Tern	3	W			
	1425	Sooty Shear	24	S			
	1430	" "	17	S			
FF	1431	Sooty Tern	28			Feeding erratically 2 coll, 12 immature	
	1435	Sooty Shear	32	S			
	1440	" "	18	S			
	1450	" "	42	S			
	1451	Sooty Tern	55			Feeding erratically, broke up when chased	
		Fairy Tern	2				
		Wedgetail	3			dark	
	1455	Sooty Shear	3	S			
	1456	Wedgetail	1	W		dark	
	1458	Ruddy Turnstone	1	⑥			
	1500	Sooty Shear	12	S			
	1505	" "	15	S			
FF	1510	Sooty Tern	900	±		about 1/3 immature	
		Wedgetail	75	±		all dark but 4 1 coll ♂	
		Fairy Tern	12			Feeding erratically, split into 2 flocks, one about 3X as big as other. not feeding heavily, chased smaller flock, it split up immediately and went in all directions	
		BFB	4				
		Noddy Tern	40			Probably more	
		L.T. Jaeger	1				
	1525	Ruddy Turnstone	3	⑥			
	1530	Wedgetail	2	S		1 light 1 dark	
	1535	Sooty Tern	1	S			
	1536	Sooty Shear	15	S			
	1540	" "	128	S			
	1545	" "	27	S			
FF?	1546	Sooty Tern	60			most birds circling high, no feeding activity	



DATE 19 September 1965
Pg. # 4

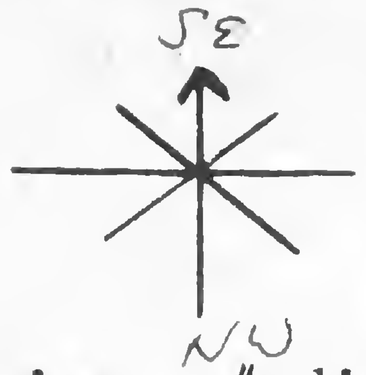
	time	species	#	dir.	hgt.	remarks	loc.
	1600	Sooty Shear	17	S			
FF	1605	Sooty Tern Wedgetail	250 10			first sighted at edge of heavy rain squall, birds remained feeding actively in the squall as we circled.	
	1625	Sooty Shear	19	S			
	1633	" "	6	S			
	1635	" "	14	S		rain squall passing over ship	
	1645	" "	35	S			
	1645	RTTB	1			circling around rain squall	
	~~[illegible]~~						
	1655	Sooty Shear	~~[illegible]~~ 40	S			
	1658	Golden Plover	1			circling ship	
	1657	WTTB	1			dove into water about 15 yds out from ship and completely submerged, then took off.	
	1700	Sooty Shear	~~[illegible]~~ 14	S			
	1700	" "	19	S			
	1706	Sooty Tern	1			coll ♀	
	1712	Jaeger sp	1	NE			
	1713					8 whales, black, spout	
	1715	Sooty Tern	2	SW			
	1716	Sooty Shear	16	S			
	1725	Sooty Shear	9	S			
	1735	" "	8	S			
	1745	" "	3	S			
	1800	Ruddy Turnstone	1	ⓔ		These 2 flew together around ships	
	1801	Golden Plover	1	ⓔ			
	1808	Sooty Shear	14	S			
	1820	"	8	S		3 with silver, 5 without	
	1825	"	[illegible]				
	1830	"	31	S		5 w/silver, 3 without	
			9	S			
	1831	Brown Booby	1	NE		immature	
	1835	Sooty Shear	4	S		3 with silver	
	1840	~~4~~ "	2	S			
	1840	Blue faced Booby	2	N		adult	
	1840	Wedgetail	1			flushed dark	
	1845	Sooty Shear	19	S		3 with silver, 2 without	
→						Sunset 1845 — Begin Night Observations	
	1850	Sooty Shear	4	S		1 with "	
	1850	Blue faced Booby	2	S		adult	
	1855	Golden Plover	1	ⓔ			
	1857	Sooty Shear	7	S		1 with silver	
	1904	"	5	S			
	1910	"	45	S			

DATE 19 Sept 65
Pg.# 5

Night Observations Con't

time	species	#	dir.	hgt.	remarks	loc.
1915	Sooty Shear	24	S			
1920	" "	11	+ S			
1943	Wedgetail	1			~~See~~ landed on H_2O in spotlight beam dark	
1955	"	1			landed on ship, - first was seen in light, landed in water beside ship 3 times, then flew on board.	♀ coll
2000	end observation					

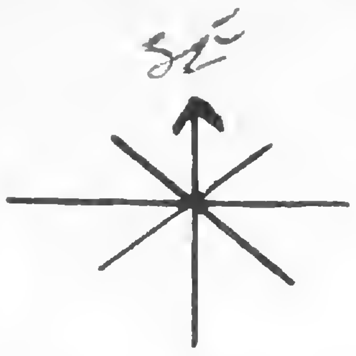
1.



NOON Position 0°28'S; 176°05'W

DATE 20 Sep 65
Pg.# 1
SIC 9

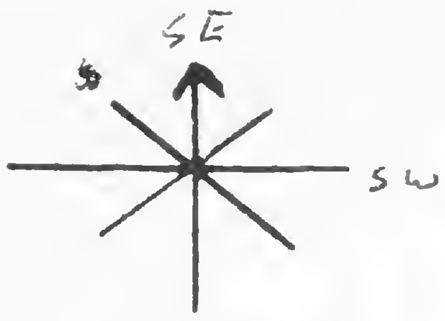
	time	species	#	dir.	hgt.	remarks	loc.
	0705	Wedgetail	4			dark	
	0715	Sooty Shear	20				
	0725	underway					
	0745	Sooty Shear	1	S			
	0745	Frigate sp.	1	⊙			
	0812	shear pet ~~Sooty Shear~~	1	SE			
	0816	Brown booby	1	SE		imm.	
	0820	Sooty shear	8	S			
	0825	"	9	S			
	0829	" "	14	S			
	0831	" "	7	S			
	0835	" "	62	S			
	0840	" "	40	S			
	0844	" "	145	S			
	0844	Wedgetail	1	W		dark	
FF	0846	Sooty Tern	13			Flock	
		Frigate sp.	3				
	0850	Sooty shear	123	S			
	0850	Wedgetail	1	S		dark	
	0852	"	2	NW		"	
FF	0900	Lesser Frigate	2				
		Sooty Tern	150				
		Wedgetail	150			1 light phase.	
	0852-900	Sooty shear	700	S			
	0900	" "	300	S			
	0915	" "	450	S			
	0922	" "	50	S			
	0922	BF Booby	1	NE			
	0922	Wedgetail	1	SE		dark	
	0924	Sooty Shear	27	S			
	0925	" "	10	S			
	0930					3 rain squalls to SE & S.	
	0935	Sooty shear	125	S			
	0945	Wedgetail	50			dark	
		Sooty Tern	200			FF	
		Audubon. Shear	1				
	0950	Sooty shear	300				
	0955	" "	175				
	0955	Wedgetail	1				
	1021	"	1	N			
	1022	Sooty Shear	5	S			
	1029	" "	30	S			
TK	1030	Sooty Tern	50			4 + imm.	
		Wedgetail	30			Travel	
	1041	Frigate	2	⊙			
	1045	~~Soot~~ Slenderbill	5				



DATE Sept 20 1965
Pg.# 2
SIC 9 - Baker → McKean

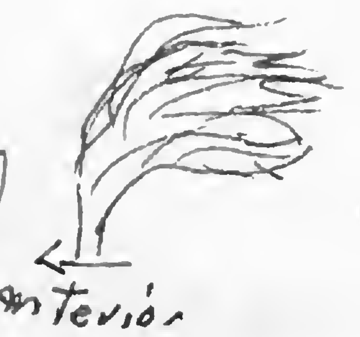
time	species	#	dir.	hgt.	remarks	loc.
1051	Sooty-Slender	29	± 2 S			
1056	Wedgetail	1			dk	
1058	"	1			dk.	
1101	Sooty-Slender	15				
1103	" "	9				
1106	Wedgetail	1			dark	
1109	Sooty-Slend.	45±				
1111	" "	90±				
1115	S-SB	25±				
1120	" "	30±				
1123	" "	15±				
1126	" "	45±				
1128	" "	20±				
1131	" "	4				
1131	" "	110±				
1134	" "	60±				
1138	" "	2				
1139	Sooty Tern	2	NW			
1143	Sooty-SB	26	S			
1144	" "	7			- milling off stern	
1146	" "	50±			distant	
1151	" "	<70±	S			
1151	Storm-petrel	1				
1155-1200	Sooty-SB. Shear.	500±	S			
1200-1205	"	625±	S			
1207	Golden Plover	1	SW	40'	Heavy body molt	
05-10	Sooty-SB. Shear.	350	S			
1211	Wedge-tail	1	E		dark phase	
10-15	Sooty-SB Shear	625±				
1217	Golden Plover	3	E	40'	heavy body molt	
FF 1217	Sooty Tern	17			8± 2 young.	
	Wedge-Tail	1			dark phase	
15-20	Sooty Shear/SB	65	S			
20-25	"	300	S			
25-30	"	15	S			
30-35	"	25	S			
1240	White-throated Storm Petrel	1	SE			
1244	Golden Plover	1	SE	50'	Heavy body molt	
1240-45	Sooty-SB Shear	5	S			
45-50	"	60	S			
1250	Storm-Petrel	1	⊗		Head dusky-grey, back light grey with brownish "V" from primaries across mantle. Very dark below, with narrow white line down cent. of wings	

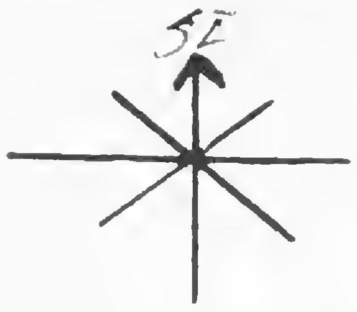
Stc 9



DATE 20 Sept. 65
Pg.# 3
Baker → McLean

time	species	#	dir.	hgt.	remarks	loc.
1254	Golden Plover	1	SW	50'	heavy body molt, called when passing ship	
1255-1300	Sooty/SB Sh.	20	S			
1304	Wh-th. S. Petrel	1	SW	low		
1306	Wedge-Tail	1	SE		dark phase	
1308	Sooty/SB Shear	1	S			
1314	Sooty/SB Shear	13	S			
1318	Wedge-Tail	1	SW		dark phase	
1322	Golden Plover	1			circled ship, heavy body molt into Fall plumage	
1330-35	Sooty/SB Shear	550	S			
35-40	"	505	S			
1347	Golden Plover	1			breeding plumage	
40-45	Sooty/SB Shear	405+	S			
45-50	"	230+	S			
50-55	"	335+	S			
55-60	"	700+	S			
TF 1356	Sooty Tern	28				
	Wedge-Tail	2			dark phase	
1404	Golden Plover	1	S		heavy body molt, black-spotted on breast.	
1405-10	Sooty Shear	340	S			
1411	Sooty Tern	150			Travelling SE, too distant to tell adult & immature	
1410-15	Sooty Shear	105	S			
1413					porpoise, at least 12	
1415-20	Sooty Shear	75	S			
1420-25	" "	280	S			
1425-30	" "	95	S			
1430-35	" "	45	S			
1435-40	" "	15	S			
1440-45	" "	150	S			
1445-50	" "	70	S			
1450-55	" "	45	S			
1455-60	" "	60	S		mostly dark underwing	
1500	Golden Plover	1	Ⓢ			
1500-1505	Sooty Shear	60	S			
1503	Wedgetail	1	SW		dark	
1505-10	Sooty Shear	5	S			
1510-15	" "	15	S			
1515-20	" "	150	S			
1518	Sooty Tern	90±			Feeding	
	Frigate sp	3				
	Shear-wat	8			probably WT	
1520-26	Sooty Shear	135	S			
1524					whale sp, 3, spout	





DATE 20 Sept 65
Pg. # 4

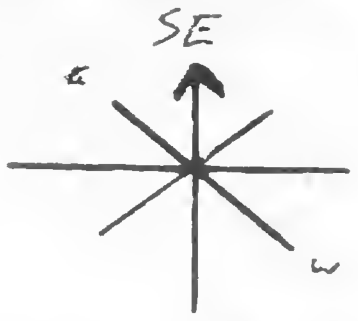
Baker → McKeon

	time	species	#	dir.	hgt.	remarks	loc.
	1525-30	Sooty Shear	775	S			
FF	1528	Sooty Tern	340±			Feeding - Tuna jumping below	
		Wedgetail	13			all dark but three	
		Shear-Pet	4			about Phoenix Is Pet size, entirely dark above; dark underwings and tail white throat and breast.	
		Frigate	9				
	1531	Golden Plover	1	⊙			
	1530 35	Sooty Shear	75	S			
	1549	Sooty ~~Shear~~ Tern	75±			Travelling	
	1556	Sooty Shear	5	S			
	1605	Sooty Shear	29	S			
	1607	Golden Plover	1	S			
	1615	Sooty Shear	25	S			
FP	1623	Shear-Pet	6±	Ø			
	1631	Sooty Tern	90	±S		feeding	
		Wedgetail	4±	1 (dark)			
		shear/petrel	1			white underparts	
	1630	Sooty Shear	15	S			
	1645	Sooty-Slenderbill	37+	SW			
	1648	Sooty Shear	3	SW			
	1652	Sooty Tern	85±			Travelling	
		Frigate sp	1				
	1655	Sooty Shear	10	S			
FF	1705	Sooty Tern	75	±S			
		Wedgetail	2			dark	
		Frigate sp	4+				
	1705	Sooty Shear	5	S		all dark underwing	
	1709	Sooty Shear	13	S			
						1710 one large pod each Humpbacked Whales and porpoise sp. 6 of former + 5-10 latter	
FF	1725	Sooty Tern	70	±S			
		Fairy Tern	1				
	1730	Sooty Slender-bill	8	S			
	1733	Sooty Shear	18	S		1 had silver underwings, 9 didn't, the rest didn't have underwings.	
	1740	"	9	S			
	1750	"	3	S			
	1802	Bulwer's	1	E			
	1805	Sooty Shear	13	S			
	1810	Wh-R. Storm Pet.	1	W			
	1812	Sooty/Sl. bill	12	S			
	1815	petrel	1			white underparts Leucoptera type but not quite the same: chunkier - same as	
	1818	Pterodroma	1	M			
	1820	Sooty Shear	14	S		bird of 1631	
	1825	"	20	S		1 w/dark underwing	
	1830	"	13	S		5 w/dark "	

DATE 20 Sep 65
Pg. # 5

time	species	#	dir.	hgt.	remarks	loc.
1834	Sooty Shear	14	S			
1834	Sooty Shear	12	S			
1835	"	59	S			
1838	"	28	S			
1840	'	36	S			
1840	end observations					

SIC 9



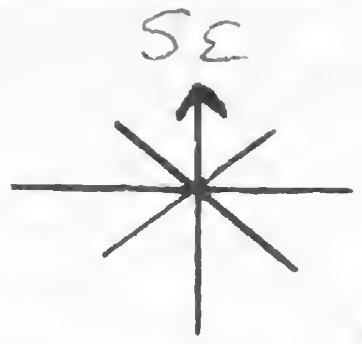
Noon Position - McKean Island

DATE 21 Sept 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0626-35	Red-t. Tropic	1	SE	150'	circled ship several times	
0629	SUNRISE				SUNRISE	
0629	Sooty Tern	2	W		imm.	
0633	Sooty/SB Shear	1	S			
0640	"	4	S			
0644	"	2	S			
0645	Wedgetail	1			light phase	
0650	Sooty/SB	6	S			
0654	"	4	S			
0656	Gray-backed ~~[illegible]~~ Tern	1	SW	30'		
0701	Sooty/SB Shear	3	S		1 w/ silver underwing	
0702	Wedge-tail	1	E		dark phase	
0704	Sooty/SB	4	S			
0705	Tern sp.	4				
0708	Sooty Tern	2	SW			
0711	Bulwer's P.	1	NW			
0714	PORPOISE	4				
0715	Sooty-SB	5	S			
0716	Wedge-tail	1	S		dark phase	
0717	Tern sp.	2				
0718	Sooty/SB	6	S		1 silver, 1 dark underwings seen	
0724	Xmas Is. Shear	1			on water	
0726	Sooty Terns	2			flying in diff. directions erratically	
0727	Sooty/SB	4	S			
0735	Frigate sp.	1			♀	
0743	Tern sp.	1	N			
0743	Wedge-Tail	1	G		dark phase	
0743	shear-pet.	1	NE			
1745	Tern sp.	2	W			
0747	Shorebird sp.	1			perched on driftwood	
0748	Sooty/SB	1	S			
0750	~~P. [illegible]~~ Pterodroma sp.	1	E			
0752	Sooty/SB Sh.	3	S			
0755	" "	11	S			
0759	" "	1			large squall ahead	
0801	Sooty Tern	1	SW			
0812	Sooty Shear	12	S			
0812	Shear/petrel	1	E			

35
44
16
178
1 2

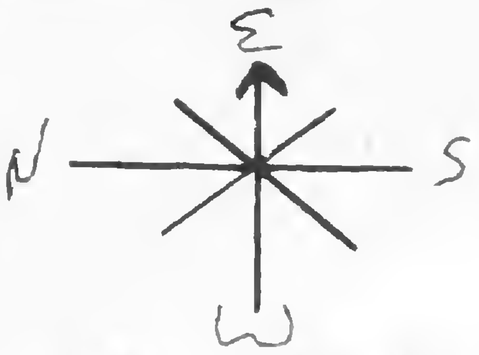
373



DATE 21 Sep 65
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	0820	Sooty Shear	3	S			
	0825	"	25	S			
	0835	Greyback Tern	1	SE			
	0828	Sooty shear	2	SE		ship presently in squall.	
	0857	" "	2	S			
	0902	P. leucoptera	1	NE			
	0905	Sooty shear	7	S			
	0905					100% overcast; rain squalls tell around.	
	0910	R. Foot Booby	1	↻			
	0913	Sooty shear	28	S			
	0916	" "	32	–		Flock circling at Edge of squall to SW of ship.	
	0918	Bulwers.	1	SW		bars in wing quite white – ~~w~~ wedgetail.	
	0919	Sooty Tern	1	NW		ship entering squall	
	0922	Sooty shear	5	S			
	0927	"	2	S			
	0927	Sooty Tern	3	W			
	0932	Sooty shear	2	S			
	0939	Sooty Tern	3	SW			
	0943	Sooty shear	3	SE			
	0943	P. leucoptera?	1	SW			
	0945	PI Petrel	1	@			
	0949	Sooty Tern	5	↻			
	0952	Blue-G. Noddy	2	NW			
	0957	~~#~~				McKean Is. now 5 miles ahead	
	1005	Bl.grey Noddy	1	NE			
	1006	"	4	NE			
	1007	"	1	NW			
	1007	Sooty Tern	1	NW			
	1007	BFB	1	.		adult	
FF	1008	Sooty Tern	100				
	1009	BFB	1	@			
	1009	Sooty Tern	7	NW		scattered - no flock 5 immatures	
	1010	Gray back Tern	1	NW			
	1012	Sooty Tern	12	SE		scattered — heavy rain + squall	
	1012	Bl.grey Nod	1	NW		visibility 1/3 mile	
	1012	shear/petrel	1			light underparts	
	1014	Sooty Tern	1	@			
TF	1023	~~[illegible]~~ Blue-grey Noddy	5				
		Sooty Tern	2	NE		immature	
		Noddy	3			island 1 mile ahead	
	1025	RFB	1			scattered	
		Blue-grey Noddy	2			immature End observations 1030	7.78
		Sooty Tern	2				

McKean → Hull

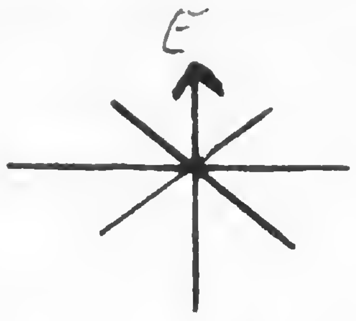


NOON Position. McKean Island

DATE 23Sep65
Pg.# 1

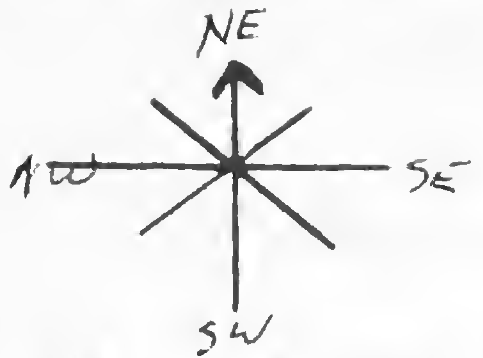
time	species	#	dir.	hgt.	remarks	loc.
1300	begin observations					
1302	Sooty Tern	2	NE			
1303	Fairy Tern	3	NE			
1307	Fairy Tern	1	~~[illegible]~~			
	Grey-back Tern	1	NW			
1308	Sooty Shear	8	SE		all with silver underwing	
1312	Fairy Tern	2	SW			
1315	BFB	1	NE		adult	
1315	Fairy Tern	1	E			
1323	Grey-backed Tern	1	W			
1323	Fairy Tern	1	E			
1325	Wh-Th. S.P.	1	SE			
1326	Grey-backed T.	1	S			
1328	Audubon's Sh.	1	NE		4-11 wing beats / glide.	
1330	Fairy Tern	3	E			
1331	Blue-grey Noddy	2	NE			
1335	"	1				
1348	Sooty Tern	1	W		Feeding	
1355	Sooty Shear.	1	S		silver underwing	
1358	BFB	1	E		adult	
1358	Fairy Tern	1			diving	
1403	Grey Back Tern	1	SW		Feeding	
1408	Fairy Tern	1	—			
1410	Grey-backed Tern	1	W			
1411	Fairy Tern	2	E			
1412	Sooty Shear	1	SE			
1418	Audubon's S.	1	E			
1431	Grey-backed T.	1	S			
1431	Sooty Sh.	5	S			
1432	Wedge-Tail	1	NW		dark phase	
1442	"	1	Ⓖ		" "	
1443	shear/petrel	1	SE		light underparts	
1510	Sooty-Slndrbill	3	SE			
1513	B.l.-Gr. Noddy	1	W			
1537	Brown Booby	1	E		Ad.	
1553	Gr.-B. Tern	1	S			
1612	Sooty-SB Sh	12+	SE?			
1613	BFB	1	NW			

$$\begin{array}{r} 24 \\ 11 \\ 15 \\ {}^{1}\,32 \\ \hline 8\overset{2}{1} \end{array}$$



McKean -> Hull
SIC 9
DATE 23 Sept. 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1630	Sooty? Sh.	2	S		sm. squall ahead	
1643	Sooty Tern	2	SW			
1712	" "	1	SW			
1713	L. Frigate	1	E		ad ♂	
1720	Sooty Tern	1	S			
1722	Gray-back Tern	4	SSW			
1804	B.F. Booby	1	W			
1822	Sooty shear	1	SE			
1822	Com. Noddy	1	SW		imm	
1830					sunset!	
1832	Sooty Tern	1	W			
1836	Sooty Shear	19	SW			
1839					cease observations	

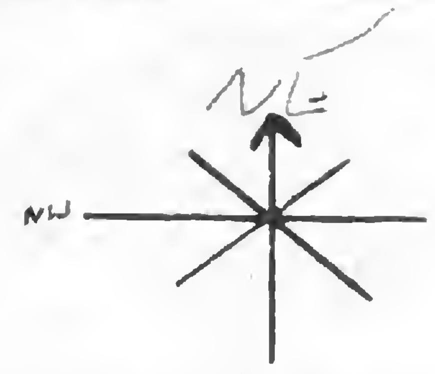


Noon Position 4°07'S; 171°28'W

Hull to Phoenix.

DATE 29 Sep 65
Pg.# 1
STC 9

time	species	#	dir.	hgt.	remarks	loc.
0700	HNT	5	NW	low	Hull 055 rt side 1 mi.	
0701	Sooty Tern	1	—		Imm.	
0702	"	2	NW	200'+	Ad. + Imm. calling	
0702	Common Noddy	2	U			
0705	Lesser Frig.	35			Hovering over Northern Islets	
0706	" "	300+			" " " "	
0716	Red-footed Booby	1	G		Imm.	
0707	Sooty Tern	2	O			
0709	" "	9	O			
0711	" "	5	O			
0713	" "	20	O		14 Imm. following ship.	
0714	" "	800+	O		Circling over the large N. colony.	
0720	" "	1	NE			
0724	" "	1	E			
0725	" "	1	W			
0727	" "	2	E		ad.	
0735	" "	3	W		ad.	
0744	" "	1	W		ad.	
0752	" "	1	E		ad.	
0802	Blackwing P.	1	S			
0805	BFB	1	W		adult	
0815	Sooty Tern	1	NE		adult	
0816	Fairy Tern	3	SW			
0820	Sooty Tern	3	SW			
0823	Sooty Tern	4	NE		adult	
0832	wedgetail	1	SE			
0834	shear/petrel	1	SW		dark phase.	
0842	Sooty Tern	4	SE		light underparts	
0845	Noddy	1	SE		adult	
0907	Sooty Shear	1	SW		definite - white wing linings	
0916	Sooty Tern	1	SW			
0917	Sooty Shear	1	SW			
0925	Sooty Shear	2	S			
0940	Sooty Tern	1	SW			
0942	"	1	SE			
F 0944	Sooty Tern	6	SE			
0950	Sooty Shear	5	S			
1009	" "	1				
1012	wedgetail	1			dark	
1033	G-Plover	2				
EE 1028	Sooty T.	77+			feeding	
	Frig. sp.	1				
1040	Sooty Tern	3	SE			
1041	Bulwers	1				



DATE 21 Sept
Pg.# 2

Hull to Phoenix

time	species	#	dir.	hgt.	remarks	loc.
1120	Wedgetail	1	SE		dark	
1140	Ruddy Turnstone	3	SE ?			
1153	sooty shear.	2	SE		light underwing	
1202	Frigatebird sp.	2	↺			
1210	Pterodroma sp.	1			small type – not seen well.	
1235	P. Leucoptera ~~Gould's P.~~	1	SSE			
1326	Sooty Tern	1	W			
1437	Shear.-Pet	1	N			
1449	Blk-winged Pet.	1	N			
1512	BFB	1	NE	ad.		
1550	B.W. Petrel	1	N			
1607	shear-pet	1	N			
1608	Wedgetail	1	N		dark	
1610	~~[illegible]~~ Blue-grey Nod.	1	NE			
1612	shear-petrel	2	N		light underparts, small (Audubons?)	
1616	Wedgetail	1	E		dark	
1617	Wedgetail	1	NE		dark	
1618	Wedgetail	2	E		dark	
1618	shear/pet	1	N		light underparts	
1620	Wedgetail	1	E		dark	
1621	Sooty Tern	1	NW		adult	
1622	shear/petrel	2	N		dark - petrel like flight	
1630	Wedgetail	3	NE		dark	
1630					Phoenix I. on horizon	
1635	Wedgetail	2	NE		dark	
1638	Wedgetail	1	E		dark	
1640	Sooty Tern	1	SE		adult	
1644	Wedgetail	3	E		dark	
1645					birds – frigates presumably, visible over Phoenix I	
1652					at distance of 3.7 miles	
1655					~~[illegible]~~ Frigates visible at 3.5 miles as dense swarm,	
1656	Ruddy Turnstone	3	SW		flocks might be seen at this distance	
1658	BFB	2	N		individual Sooty Terns ~~[illegible]~~ visible at 3 miles would ~~[illegible]~~ be seen as flock at ~~this distance~~ 2 to 2.5 miles adult	
1700	end observations at				2 miles from Phoenix I.	

421
48.
953
335
1 2 12

1360

DATE THURS. 16 SEPT 1965

Time at ~~sunrise~~ DEPARTURE = ~~Position at sunrise~~ BAKER I. = 1254⊗

Time at sunset = 1846 Position at sunset = 0°-25'S 177°-01'W

Miles traveled from 0000 hours to sunrise = ~~751~~

Miles traveled from ~~sunrise~~ BAKER to sunset = 49

Miles traveled from sunset to 2400 hours = 44

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1345	RADAR	176°-35'W	0°-06'N
2.	1900	STARS	177-02W	0-24 S
3.	0220	STARS	177°-24'W	0 - 31 N
4.				
5.				
6.				

DATE FRI. 17 SEPT. 1965

Time at sunrise = 0641 Position at sunrise = 1°-04'N, 177°-35'W

Time at sunset = 1844 Position at sunset = 1°-17'N, 176°-04'W

Miles traveled from 0000 hours to sunrise = 54

Miles traveled from sunrise to sunset = 113

Miles traveled from sunset to 2400 hours = 50

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0800	☽/☉	177°-39'W	01°-15'N
2.	1400	SUN/LAN	176°-49'W	1°-16'N
3.	1900	STARS	176 05'W	1° 15'N
4.				
5.				
6.				

DATE SAT. 18 SEPT. 1965

Time at sunrise =0636 Position at sunrise = 0°-02'S, 176°-08'W

Time at sunset =1843 Position at sunset = ~~34~~ 1°-26'S 176-38'W

Miles traveled from 0000 hours to sunrise = 46

Miles traveled from sunrise to sunset = 121

Miles traveled from sunset to 2400 hours = 40

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE
1.	0600	Stars	176°12'W	00°01'N
2.	1400	LAN/☉	175-58W	01°-07'S
3.	1750	☉	176-22W	1°-26'S
4.				
5.				
6.				

DATE SUN 19 SEPT. 1965

Time at sunrise =0640 Position at sunrise = 0°-32'S 177°-39'W

Time at sunset =1845 Position at sunset = 0°-31'N 177°-03'W

Miles traveled from 0000 hours to sunrise = 53

Miles traveled from sunrise to sunset = 106

Miles traveled from sunset to HOWLAND ~~2400 hours~~ = 31

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE
1.	0800	☉/*	177-44	0°-23 S
2.	1500	☉	177-30	0-17 N
3.	2140	RADAR	176-40	0-41 N
4.				
5.				
6.				

DATE MON 20 SEPT. 1965

POSIT. AT 0000 - HOWLAND I.

Time at sunrise = 0636 Position at sunrise = BAKER I.

Time at sunset = 1839 Position at sunset = 1°-22'S, 175°-36'W

HOWLAND TO BAKER = 37 MI.

Miles traveled from 0000 hours to sunrise = 37 MI

Miles traveled from (BAKER) sunrise to sunset = 109 MI

Miles traveled from sunset to 2400 hours = 60 MI

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE
1.	0200	RADAR	176°-38'	0°-41'N
2.	1100	SUN	176°-10'	0-19'S
3.	0800	RADAR	176°-26'	0-05N
4.				
5.				
6.				

DATE TUES 20 SEPT. 1965

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	stars	174° 31'W	2° 56'S
2.				
3.				
4.				
5.				
6.				

DATE THUR 23 SEPT. 1965

DEPART McKEAN 1300

Time at sunrise =

Position at sunrise =

Time at sunset = 1830

Position at sunset = 3°-53'S, 173°-28'W

Miles traveled from 0000 hours to sunrise =

Miles traveled from ~~sunrise~~ McKEAN to sunset = 43 mi.

Miles traveled from sunset to 2400 hours = 43 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE S
1.	1330	RADAR	174°-04'	3°-37'
2.	1900	Stars	173-26	3-55
3.				
4.				
5.				

DATE TUES 7 SEPT '65

Time at ~~sunrise~~ SEA BUOY = 1045 Position at ~~sunrise~~ SEA BUOY = L - 21°-17'N, λ 157°-53'W

Time at sunset = 1846 Position at sunset = L - 20-45N, λ 159°-14'W

Miles traveled from 0000 hours to sunrise =

Miles traveled from ~~sunrise~~ SEA BUOY to sunset = ~~438~~ 82

Miles traveled from sunset to 2400 hours = 57

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	1200	VIS	158°-08'	21° - 11.5' W
2.	1320	VIS/RADAR	158°-20'	21°-07'
3.	1830	LORAN	159°-12'	20°-46'
4.	2140	"	159°-43'	20°-35'
5.				
6.				

DATE WED 8 SEPT '65

Time at sunrise = 0530 Position at sunrise = L 20°-01'N, λ 161°-14'W

Time at sunset = 1803 Position at sunset = LAT. 19°-12'N, λ 163°-20'W

Miles traveled from 0000 hours to sunrise = 67

Miles traveled from sunrise to sunset = 129

Miles traveled from sunset to 2400 hours = 58

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0100	LORAN	160°-52'	20°-23'
2.	0500	" / stars	161° 08'	20° 03'
3.	1100	LORAN	162-10	19-38
4.	1800	Stars	163° 19'	19° 12'
5.	1500	⊙/LORAN	162-51	19-22
6.				

DATE THURS 9 SEPT. 1965

Time at sunrise = 0548 Position at sunrise = L 18°-23'N, λ 165°-16'W

Time at sunset = 1816 Position at sunset = L 17°-36'N, λ 167°-24'W

Miles traveled from 0000 hours to sunrise = 59

Miles traveled from sunrise to sunset = 130

Miles traveled from sunset to 2400 hours = 62

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	Stars	165°14'	18°24'
2.	1100	LORAN	166°-06'	18°-02'
3.	1400	LORAN/☉	166°-37'	17°-49'
4.	1830	Stars	167-26	17-35
5.	2300	LORAN	168°-11'	17°-14'
6.				

DATE FRI 10 SEPT 1965

Time at sunrise = 0604 Position at sunrise = L 16°-45'N, λ 169°-22'W

Time at sunset = 1824 Position at sunset = L -16°-18'N, λ 169°-43'W

Miles traveled from 0000 hours to sunrise = 64

Miles traveled from sunrise to ~~sunset~~ JOHNSTON = 12

JOHNSTON SUNSET = 28

Miles traveled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0330	LORAN	168-58	16-56
2.	1842	Stars	168 44	16 15
3.				
4.				
5.				
6.				

DATE SAT 11 SEPT. 1965

Time at sunrise =0610 Position at sunrise = 14°-30'N, 170°-25'W

Time at sunset =1828 Position at sunset = 12°-44'N, 171°-15'W

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0230	STARS	170°-14'	15°-00
2.	0600	Stars	170°23'	14-32'
3.	1220	SUN/LAN	170°-44'	13°-36'
4.	1900	Stars	171 19	12 46
5.	2300	STARS	171°-32'	12°-01'
6.				

DATE SUN 12 SEPT 1965

Time at sunrise = 0618 Position at sunrise = 10°-42'N, 172°-02'W

Time at sunset =1834 Position at sunset = 8°-58'N, 172-53'W

Miles traveled from 0000 hours to sunrise = 74

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0600	Stars	172-~~00~~	10-~~25~~45
2.	1100	SUN	172°-24'	10°-00'
3.	1350	SUN/LAN	172°-33'	9°-38'
4.	1900	Stars	172-54	8-56
5.				
6.				

DATE MON 13 SEPT. 1965

Time at sunrise = 0626 Position at sunrise = 7°-09'N 173°-36'W

Time at sunset = 1836 Position at sunset = ~~6~~ 5°-49'N, 173°-59'W

Miles traveled from 0000 hours to sunrise = 60

Miles traveled from sunrise to sunset = 83

Miles traveled from sunset to 2400 hours = 47

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0600	Stars + ☽	173°34'	7°15'
2.	1100	SUN	173°-45'	6°-27'
3.	1400	LAN/SUN	173°-50'	6°-08'
4.	1900	Stars	174°05'	5°45'
5.				
6.				

DATE TUES. 14 SEPT. 1965

Time at sunrise = 0631 Position at sunrise = 5°-05N, 175°-00W

Time at sunset = 1843 Position at sunset = 5°-08N 176°-00W

Miles traveled from 0000 hours to sunrise = 46

Miles traveled from sunrise to sunset = 91

Miles traveled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	2000	LORAN	176°-28'	4°-55'
2.	2230	STARS	176°-30'	4°-31'
3.				
4.				
5.				
6.				

0637 12.2
1846

DATE WED 15 SEPT 1965

Time at sunrise = 0637 Position at sunrise = 3°-07'N 176°-27'W

Time at sunset = 1846 Position at sunset = 1°-25'N 176°-30 W

Miles traveled from 0000 hours to sunrise = 67

Miles traveled from sunrise to sunset = 103

Miles traveled from sunset to HOWLAND I (2218) ~~2400 hours~~ = 48

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0600	Stars	~~[illegible]~~ 176°-27'W	3°13'N
2.	0930	SUN	176°-27'N	2°-39'N
3.	1338	SUN/LAN	176°-24'W	2°-08'N
4.	2130	RADAR	176°-33'W	0°-54'N
5.				
6.				

DATE THURS 16 SEPT '65 AM

Time at sunrise = 0634 Position at sunrise = HOWLAND I. in 0042 1637

0800 DEPARTURE HOWLAND I.

Time at sunset = ← Position at sunset = ←

1142 ARRIVAL BAKER I.

Miles traveled from 0000 hours to sunrise = 0

Miles traveled from HOWLAND TO BAKER ~~sunrise to sunset~~ = 37 mi.

Miles traveled from sunset to 2400 hours = –

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0830	RADAR	176°-36'W	0°-43'N
2.	1058	"	176°-28'W	0°-19'N
3.				
4.				
5.				
6.				

Baker Island

Party of Tordoff and Woodward landed here on 16 September and departed 20 September. A change in the direction of the wind on the 20th increased the height of the surf and made the departure difficult. No trouble was encountered landing.

Daily watches were held to dtermine the use of the island by various bird species. Fifteen species of birds were recorded. Lush vegetation and standing water indicated heavy recent rainfall.

Bird numbers were down considerably from previous visits. The only species nesting was the Blue-Faced Booby (two nests). It is believed that the Noddy Terns usually found nesting in the lagoon were flooded out. Shorebirds were the most common element of the avifauna. Two Sharp-Tailed Sandpipers were collectd, a first for the island. A red-rumped Ruddy Turnstone was seen also. Mus were much less common than in February.

Howland Island

The U.S.N.S. Shearwater arrived off Howland at 2230 hours, 15 September, 1965. A survey of landing conditions was made by Robert Ashton, first mate, and Robert Fleet, S.I. party leader. The entire party went ashore without incident at 0200, 16 September. Sera and Berlese samples were taken, and five of the party returned to the ship leaving Robert Fleet, Cameron Kepler, Kenneth Amerman, and Brian Harrington. As Sooty Terns were absent from the island, work was concentrated on banding and streamering Blue-Faced and Red-Footed Boobies. Nestling Red-Footed Boobies and Great Frigatebirds were banded. A nest count was made on 16 September and additional sera were collected on the night of 19 September.

The vegetation was extremely lush with Tribulus 2-3 feet high over much of the island and Digitaria was seen up to 4 feet in height. Skinks were numerous. Very few adult Frigatebirds of either species were present on the island. The party departed at 0115, 19 September.

McKean Island

A feild party consisting of Robert Fleet(biologist in charge), Kenneth Amerman, Brian Harrington, Dayle Husted, Cameron Kepler, Warren King, Jeff Tordoff, and Paul Woodward, landed at 1300 hours, 21 September, 1965. Three rolls of wire were lost but were recovered later. Dick Crossin departed for Canton at 2000 hours, 21 September.

A nest count was taken on the afternoon of 21 September. The Sooty Tern colony was almost through the breeding cycle with with a few flying young remaining. Emphasis in banding was on Sooty Terns, with banding of other species as time permitted. Returns were obtained from all species handled. Sera samples and anumber of specimens were collected, including a banded Ruddy Turnstone from the Pribilofs.

The Shearwater returned from Canton at 0000 hours, 23 September, and the party departed McKean at 1200 hours.

(The above party remains the same for all islands following.)

Hull Island

The Smithsonian party landed at 0930, 24 September, 1965. Due to rough surf conditions, the party landed at the village rather than the Sooty Tern colony. All banding was done on Sooty Terns. There were two colonies present. Sera and Berlese samples were taken, and a nest count was made on a portion of the northeast side of the island.

Vegetation was lush all over the island. In the main Sooty Tern colony, Sida was growing to a height of seven feet or more. The party departed at 0600 hours, 29 September, 1965.

Hull Island

The Smithsonian party landed at 0930, 24 September, 1965. Due to rough surf conditions, the party landed at the village rather than the Sooty Tern colony. All banding was done on Sooty Terns. There were two colonies present. Sera and Berlese samples were taken, and a nest count was made on a portion of the northeast side of the island.

Vegetation was lush all over the island. In the main Sooty Tern colony, Sida was growing to a height of seven feet or more. The party departed at 0600 hours, 29 September, 1965.

Enderbury Island

The entire Smithsonian party landed at 1230 hours, 1 October, 1965. The afternoon was spent setting up abase of operations. Sooty Terns, and Red-Footed and Blue-Faced Boobies were banded and returned while sera samples were taken. A nest count was taken in two parts, on the mornings of 2 and 3 October. Other day work consisted of banding nestling Red-Footed and Blue-Faced Boobies, Great Frigate nestlings, Hawaiian Noddy nestlings, and Red-Tailed Topicbirds. The night of 2-3 October was spent taking sera samples, Berlese samples, and banding Red-Footed and Blue-Faced Boobiess, Sooty Terns, Hawaiian Noddys, and Great Frigatebirds.

The party departed at 1230 hours, 3 October, 1965.

birds banded

BAKER ISLAND SIC 9 September, 1965

prefix	band string	adult	subadult	immature	local	nestling
HAWAIIAN NODDY TERN						
642	023	6	-	-	-	-
RUDDY TURNSTONE						
642	023	2	-	-	-	-
NODDY TERN						
853	700	6	-	-	-	-
BRISTLE-THIGHED CURLEW						
615	112	1	-	-	-	-
BLUE-FACED BOOBY						
587	840	2	-	-	-	-

TOTAL 17

Birds banded

HOWLAND ISLAND SIC 9 September, 1965

prefix	band string	adult	subadult	immature	local	nestling
BLUE-FACED BOOBY						
587	832	19	-	11	-	32
	833	37	-	4	-	11
568	700	-	-	-	-	5
BROWN BOOBY						
587	832	8	1	1	-	1
	833	3	-	-	-	-
RED-FOOTED BOOBY						
777	551	10	6	1	-	-
	574	8	9	8	-	18
GREAT FRIGATEBIRD						
777	551	-	-	2	-	-
	574	-	-	31	-	26

TOTAL 252

birds banded

McKEAN ISLAND SIC 9 September, 1965

prefix	band string	adult	subadult	immature	local	nestling
HAWAIIAN NODDY TERN						
642	023	43	-	-	-	1
FAIRY TERN						
642	024	6	-	-	-	-
	026	46	-	3	-	1
BLUE-GRAY NODDY						
642	024	94	-	-	-	-
	025	100	-	-	-	-
	026	50	-	-	-	-
	029	98	-	-	2	-
GREY-BACKED TERN						
642	027	-	-	-	-	100
	028	100	-	-	-	-
SOOTY TERN						
853	54501-55500	-	-	-	1000	-
	55501-55800	300	-	-	-	-
	55801-56200	-	-	-	300	-
	56201-56700	500	-	-	-	-
	56701-57500	-	-	-	800	-
	57501-57800	300	-	-	-	-
	57801-58200	-	-	-	400	-
	58201-58500	300	-	-	-	-
	58501-59200	-	-	-	700	-
	59201-61000	1800	-	-	-	-
BRISTLE-THIGHED CURLEW						
615	112	1	-	-	-	-
RED-TAILED TROPICBIRD						
615	109	6	-	-	-	15
RED-FOOTED BOOBY						
777m	551	34	5	9	-	5
GREAT FRIGATEBIRD						
777	551	2	-	-	-	26
BLUE-FACED BOOBY						
587	833	43	-	2	-	-
	834	4	-	1	-	-
568	700	-	-	-	-	16

TOTAL &#L 7313

birds banded

HULL ISLAND SIC 9 September, 1965

prefix	band string	adult	subadult	immature	local	nestling
SOOTY TERN						
853	61001-69000	-			8000	
	69001-70000	1000			-	
	71001-74000	3000			-	
	74001-82500	-			8500	
	82501-90000	7500			-	
893	20001-21500	1500			-	
	21501-22500	-			1000	
	22501-32500	10000			-	
	32501-36500	-			4000	
	36501-37000	500			-	
	37001-37500	-			500	
	37501-41000	3500			-	
	41001-44500	-			3500	

TOTAL 52500

birds banded

PHOENIX ISLAND SIC 9 September, 1965

prefix	band string	adult	subadult	immature	local	nestling
SOOTY TERN						
893	44501-45100	600	-	-	-	-
	45101-47000	-	-	-	1900	-
CHRISTMAS ISLAND SHEARWATER						
524	120	100	-	-	-	-
	121	100	-	-	-	-
WEDGETAILED SHEARWATER						
615	112	98	-	-	-	-
RED-TAILED TROPICBIRD						
615	109	2	-	-	-	13
BRISTLE-THIGHED CURLEW						
615	109	2	-	-	-	-
BLUE-FACED BOOBY						
587	834	1	-	-	-	-
568	700	-	-	-	-	11

TOTAL 2827

birds banded

ENDERBURY ISLAND SIC 9 September, 1965

prefix	band string	adults	subadults	immatures	locals	nestlings
HAWAIIAN NODDY TERNZ						
642	023	14	-	-	-	6
SOOTY TERN						
893	47001-49600	-	-	-	2600	-
RED-TAILED TROPICBIRD						
615	109	9	-	-	-	50
	113	18	-	-	-	15
RED-FOOTED BOOBY						
777	553	57	32	11	-	-
	554	13	4	1	-	82
	555	-	-	-	-	46
	556	61	5	34	-	-
GREAT FRIGATEBIRD						
777	552	19	6	9	-	66
	555	6	-	29	-	19
BLUE-FACED BOOBY						
587	834	7	1	4	-	1
568	700	-	-	2	-	13

TOTAL 3240

RETURNS SIC 9

Howland Island:

Blue-faced Booby	646
Brown Booby	10
Red-footed Booby	61

Baker Island:

Blue-faced Booby	20
Common Noddy Tern	1

McKean Island:

Blue-faced Booby	158
Brown Booby	1
Red-footed Booby	76
Great Frigatebird	4
Red-tailed Tropicbird	2
Christmas Island Shearwater	1
Wedgetailed Shearwater	1
Audubons Shearwater	13
Common Noddy Tern	1
Hawaiian Noddy Tern	6
Blue-gray Noddy	25
Fairy Tern	23
Sooty Tern	29

Hull Island:

Sooty Tern	243

Phoenix Island:

Blue-faced Booby	30
Red-tailed Tropicbird	1
Christmas Island Shearwater	86
Wedgetailed Shearwater	13
Audubons Shearwater	5
Common Noddy Tern	2
Sooty Tern	28

Enderbury Island:

Blue-faced Booby	73
Red-footed Booby	173
Great Frigatebird	2
Red-tailed Tropicbird	7
Haw. Noddy Tern	3
Sooty Tern	2

TOTAL 1748

birds collected

BIRDS COLLECTED SIC 9

BAKER ISLAND

Bristle-thighed Curlew	1	skin
Sharp-tailed Sandpiper	2	"
Sooty Tern	1	"

HOWLAND ISLAND

Blue-faced Booby	2	skin
Hawaiian Noddy	1	"
Red-footed Booby	1	skeleton

MCKEAN ISLAND

Sharp-tailed Sandpiper	1	skin
Ruddy Turnstone	2	"
Red-tailed Tropicbird	1	"
Lesser Frigatebird	1	"
Blue-faced Booby	2	"

HULL ISLAND

Wedge-tailed Shearwater	1	skin
Sooty Tern	3	"

1

PHOENIX ISLAND

Wedge-tailed Shearwater	5	alcoholics
Audubon's Shearwater	15	"
Blue-gray Noddy	15	"
Blue-faced Booby	1	skin
Wandering Tattler	1	"

ENDERBURY ISLAND

Sharp-tailed Sandpiper	2	skin
Red-footed Booby	1	"

Geckos collected on McKean Island
Geckos and Skinks collected on Hull Island

SERA SAMPLES - SIC 9

Howland Island:

Blue-faced Booby	134
Brown Booby	2
Red-footed Booby	8
Lesser Frigatebird	1
Great Frigatebird	3

McKean Island:

Blue-faced Booby	37
Red-footed Booby	26
Lesser Frigatebird	33
Wedgetailed Shearwater	6
Sooty Tern	39

Hull Island:

Sooty Tern	148

Phoenix Island:

Lesser Frigatebird	26
Wedgetailed Shearwater	35
Rabbit	26
Sooty Tern	37

Enderbury Island:

Blue-faced Booby	25
Grdat Frigatebird	25
Sooty Tern	24

BERLESE SAMPLES SIC 9

Howland Island	31
Baker Island	12
McKean Island	24
Hull Island	8
Phoenix Island	30
Enderbury Island	10
TOTAL	115

SI-MNH-142
6-64

Gould

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: Baker Island (2) Observer(s): Tordoff Woodward

3) YEAR: 1965 (4) MONTH: September (5) PERIOD: 1-15 [✓ 16-end of month]

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 6-10 11-20 21+	(16) Date	(17) Young Banded	(18) Others Banded
Slender-billed-Sooty Shear.*	19	500	C	0	A	19	0	A				
Red-Tailed Tropicbird*	19	1	A	0	A	19	0	A				
Blue-faced Booby	16-19	35 ~~20~~	B	2	A	17	1	A	100%			
Brown Booby	16-19	12	B	0	A	17	0	A				
Red-Footed Booby	16-19	1	B	0	A	17	0	A				
Lesser Frigatebird	16-19	175	C	0	A	17	0	A				
Golden Plover	17	50	B	0	A	17	0	A				
Ruddy Turnstone	17	250	B	0	A	17	0	A	ONE WITH ORANGE RUMP			2
Bristle-Thighed Curlew	17	15	B	0	A	17	0	A				1
Wandering Tattler	17	12	B	0	A	17	0	A				
Sharp-Tailed Sandpiper	18	5	B	0	A	18	0	A				
Sooty Tern ✡	16-19	50	E	0	A	19	0	A				
Gray-backed Tern	17	1	B	0	A	17	0	A				

* Offshore
✡ heard overhead at night

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: Baker Island (2) Observer(s): Woodward Tordoff

3) YEAR: 1965 (4) MONTH: September (5) PERIOD: 1-15 [✓ 16-end of month]

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10 11-20 21+	(16) Date	(17) Young Banded	(18) Others Banded
Noddy Tern	16-19	100	C	0	A	17	0	A				3
Hawaiian Noddy Tern	16-19	10	B	0	A	17	0	A				6

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6-64

Hull

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: HULL ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 24-28

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
BLUE-FACED BOOBY *	28	2	A											
BROWN BOOBY *	25	13	A											
RED-FOOTED BOOBY *	24	2	A											
LESSER FRIGATEBIRD	27	800	B											
WEDGETAILED SHEARWATER	24	1	COLLECTED											
SOOTY TERN **	28	RD. 40000	C	–	–	28	106000	C			ALL	28	25500	27000
GRAY-BACKED TERN	27	5	SEEN ROOSTING											
NODDY TERN	27	250	COUNT. B	4	D	27	0	?		–		–	–	–
HAWAIIAN NODDY TERN	27	COUNT. 2000	B	1000	C	27	0	?		–		–	–	–
FAIRY TERN	27	COUNT 100	B	0	?D									
CRESTED TERN	24	1	SEEN OVER OCEAN, OFF VILLAGE.											
BRISTLE-THIGHED CURLEW	24-28	4 SEEN, NO COUNT POSSIBLE												
RUDDY TURNSTONE	24-28	1 SEEN, NO COUNT POSSIBLE												

* COUNT, FLYING OVER LAGOON

** THREE COLONIES, SEE NOTES.

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6-64

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: HULL ISLAND (2) Observer(s): S/C #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 24-28

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10 11-20 21+	(16) Date	(17) Young Banded	(18) Others Banded
GOLDEN PLOVER	24-28	5	SEEN,	NO COUNT POSSIBLE								
WANDERING TATTLER	24-28	3	SEEN,	NO COUNT POSSIBLE								
~~SHARP-TAILED SANDPIPER~~												
DOGS	24-28	5	SEEN									
CATS	24-28	2	SEEN									
RATTUS SP?	24-28	COMMON										

SI-MNH-142
6-64

Gould

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: PHOENIX ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 29-30

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
BLUE-FACED BOOBY	30	800	B	178	A	30	69	A	17	41	11	30	11	1
BROWN BOOBY	30	20	D	3	A	30	2	A			2	30	—	—
RED-FOOTED BOOBY	30	30	C	9	A	30	0	A		—			—	—
GREAT FRIGATEBIRD	30	150	C	52	A	30	52	A		5	47	30	—	—
LESSER FRIGATEBIRD	30	1200	B	520	B	30	270	A		—		30	—	—
RED-TAILED TROPICBIRD	30	40	C	16	A	30	14	A	2		12	30	13	2
CHRISTMAS ISLAND SHEARWATER	29	3000	C	ONE EGG, ONE SMALL NESTLING FOUND, REST WITH LARGE NESTLINGS										200
WEDGETAILED SHEARWATER	29	1500	B	0	A	SITTING IN PAIRS OR DIGGING BURROWS								98
AUDUBON'S SHEARWATER	29	2500	C	ONE EGG, ONE NEARLY FLEDGED NESTLING, ONE PAIR COPULATING									—	—
PHOENIX ISLAND PETREL	30	3	(SEEN)	1	?	30	1	?			1	30	—	—
BULWER'S PETREL	29	10	(SEEN)	—	NO EGGS OR NESTLINGS, 3 BURROWS CHECKED								—	—
WHITE-THROATED STORM PETREL	29	2	(SEEN)	ONE LIVE, ONE DEAD, NO EVIDENCE OF BREEDING.										
SOOTY TERN *	30	AD. 1000	C	—	—	30	4500	C			ALL	30	1900	600

* MANY STARVING YOUNG.

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6-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: PHOENIX ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 29-30

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
GRAY-BACKED TERN	29	2000	C	0	A	29	IMM 100	B			ALL	–	–	–
NODDY TERN	29	500	D	35	D	29	(100 IMM) 110	D		10		–	–	–
HAWAIIAN NODDY TERN	30	200	B	0	A	30								
FAIRY TERN	29	1600	C	12	C	29	2		2			–	–	–
BLUE-GRAY NODDY	30	2000	D	MANY EGGS, 10 NESTLINGS FOUND PLUS FEW IMM.								–	–	–
BRISTLE-THIGHED CURLEW	30	98	A											2
RUDDY TURNSTONE	30	178	B	ONE WITH ORANGE RUMP.										
GOLDEN PLOVER	30	133	B											
WANDERING TATTLER	30	13	B											
SHARP-TAILED SANDPIPER	30	8	B											
RABBIT	30	350	C	LIGHT TO MEDIUM FAT.										

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6-6?

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: HOWLAND ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 16-19

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
BLUE-FACED BOOBY	18	1000	B	66	A	17	63	A	1	9	53	17	48	71
BROWN BOOBY	18	50	C	3	A	17	1	A			1	17	1	13
RED-FOOTED BOOBY	18	230	C	24	A	17	18	A		3	15	17	42	18
GREAT FRIGATEBIRD	18	150	D	42	A	17	39	A			39	17	26	33
LESSER FRIGATEBIRD*	18	100	D	37 ~~36~~	A	16	36	A			36	-	-	-
RED-TAILED TROPICBIRD**	17	2	B	1	A	16	1	A			1	-	-	-
SOOTY TERN	16-19	20	HEARD CALLING OVER ISLAND AT NIGHT											
NODDY TERN	18	1	(SEEN)											
HAWAIIAN NODDY TERN	16	2	ONE ROOSTING IN DEAD CORDIA, ONE ON LIGHT HOUSE (COLLECTED).											
CRESTED TERN	16	1	SEEN FLYING OVER SURF OF EAST BEACH											
BRISTLE-THIGHED CURLEW	16	10	A											
RUDDY TURNSTONE	16	16	B											
GOLDEN PLOVER	16	25	B											

* ONE AD. ♂ OE; ONE AD. ♂ ROOSTING IN LIVE CORDIA.

** ONLY ONE SEEN.

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6-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: HOWLAND ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 16-19

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 6-10 11-20 21+	(16) Date	(17) Young Banded	(18) Others Banded
WANDERING TATTLER	16	11	B									
SHARP-TAILED SANDPIPER	16	1	B									

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6-64

Gould

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: McKEAN ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 21-23

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
BLUE-FACED BOOBY	21	700	B	124	A	21	33	A		17	16	21	16	50
BROWN BOOBY *	21	4	A	0	A	21	0	A		—		-	0	0
RED-FOOTED BOOBY	23	350	B	19	A	21	7	A		2	5	21	5	48
GREAT FRIGATEBIRD	23	150	C	43	A	21	42	A		16	26	21	26	2
LESSER FRIGATEBIRD	22	2500	D	1125	B	22	850	B			850	-	-	-
RED-TAILED TROPICBIRD	21	50	C	23	A	21	16	A			16	21	15	6
CHRISTMAS ISLAND SHEARWATER **	22	1	A							—			—	—
WEDGETAILED SHEARWATER	22	75	B	0	A					—			—	—
AUDUBON'S SHEARWATER	21	5000	C	2500	C	21	1 (SEEN)	A			1	21	—	-
BULWER'S PETREL	21	100	E	20	E	21	0	?		—		21	—	-
SOOTY TERN	21	6000 AD.	C	-	-	21	3500	B			ALL	21	3200	3200
GRAY-BACKED TERN	21	2000	C	-	-	EGGS TO IMMATURES						21	100	100
NODDY TERN	21	3000	D	300	D	21	50 IMM NO EGGS	B		-		-	-	—

* 3 ADL, 1 IMM SEEN.
** ONLY ONE SEEN.

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6-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

Bi-Weekly Bird Summary Report

1) Total Survey Unit: MCKEAN ISLAND (2) Observer(s): SIC #9

3) YEAR: 1965 (4) MONTH: SEPTEMBER (5) PERIOD: 1-15 [✓ 16-end of month] 21-23

6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young 0-10	11-20	21+	(16) Date	(17) Young Banded	(18) Others Banded
HAWAIIAN NODDY TERN	21	150	B	2	A	21	~~0~~ 1	A		–	1	21	1	43
FAIRY TERN	21	2000	E	MOST ON EGGS, A FEW SMALL NESTLINGS SEEN.								21	1	55
BLUE-GRAY NODDY	21	2000	D	500	D	21	MOST ON EGGS, SAW 3 NESTLINGS.					21	0	344
BRISTLE-THIGHED CURLEW	22	90	A											1
RUDDY TURNSTONE	22	135	B	TWO SEEN WITH ORANGE RUMPS (ONE COLLECTED)										
GOLDEN PLOVER	22	228	B											
WANDERING TATTLER	22	39	B											
SHARP-TAILED SANDPIPER	22	1	B	(COLLECTED)										
GODWIT SP.?	21	1												
REEF HERON	21	1	SEEN BY LAGOON ; DARK PHASE											
SANDERLING	22	1	(SEEN TWICE)											

SIC 9 PRELIMINARY REPORT AT-SEA SURVEY
7 September to 5 November 1965

NON-GRID ONLY

This report covers the observations and collections made at-sea during the Southern Island Cruise No. 9 during the period 7 September through 5 November. During this period a total of 326.6 hours of diurnal observations and 2967 miles were covered. A total of 34,610 birds of 38 species was noted. Periodic nocturnal observations amounting to 22.7 hours were completed throughout the cruise. A total of 2,445 birds was recorded during nocturnal observations. The vast majority of these (2,026) were observed over Canton Island on 24 October before sunrise.

The Smithsonian team consisted of Richard Crossin (in charge of At-sea), Robert Fleet (in charge of island operations), Warren King, Cameron Kepler, Dayle Husted, Ken Amerman, Paul Woodward, Brian Harrington, Jeff Tordoff, and Richard Maze. Crossin was in Honolulu from 23 September to 10 October. King returned to Washington, D. C. on 11 October and was replaced by Maze for the remainder of the trip. The SIC 9 Cruise was made aboard the U.S.N.S. Shearwater. Excellent cooperation and assistance was received from the officers and crew members.

The extensive cruise track can best be divided into three sections. These will be referred to in this report as follows:

AREA a. Honolulu to Southern Grid (Howland-Baker) via Johnston Atoll, 7 September -- 15 September.

AREA b. Southern Grid to Samoa and return with island work throughout the Phoenix Group. 21 September -- 14 October.

AREA c. Southern Grid to Honolulu via Canton and Christmas Islands, 23 October -- 5 November.

Numbers of birds were highest in Area a. This was primarily the result of huge numbers of migrating Sooty/Slender-billed Shearwaters. Practically all were seen on 14 and 15 September just north of the Howland-Baker Area. Both Sooty Terns and Wedge-tailed Shearwaters were also abundant throughout Area a.; the greatest numbers were encountered in mixed feeding flocks.

Area b. was dominated by terns, boobies, and frigatebirds; Procellarids were relatively very low in number. The majority of birds were accounted for on three peak days: 29 September, just south of Hull Island; 3 October, just south of Enderbury and on 11 October near Tutuila, Samoa. One immense feeding flock just south of Enderbury on 3 October accounted for nearly half of the birds seen throughout Area b.

Area c. showed fairly consistent medium to high daily totals. The Sooty/Slender-billed Shearwater migration had passed and only a few stragglers showed during this phase of the cruise. Terns accounted for roughly two thirds of the total. Procellarids were common with a diversity of species. Wedge-tailed Shearwaters was the most abundant species in this group.

SPECIES ACCOUNT

Wedge-tailed Shearwater a = 1401 b = 152 c = 624

Large numbers of light phase northern birds were encountered between Oahu and Johnston Atoll. Dark phase individuals, presumably southern hemisphere birds, amounted to only about 6 percent of the total in this area. South of Johnston Atoll the percentage of dark phase birds increased rapidly and remained close to 100 percent throughout the southern operations. Light phase birds were encountered again in numbers north of 5°N on the return trip. A total of six orange-streamered birds was recorded south of Johnston Island on 10 September; of these, the last individual was seen during nocturnal observations approximately 54 miles south of Johnston Island.

Sooty/Slender-billed Shearwater a = 14,361 b = 900 c = 30

The peak of the southward migration of these two species occurred during the period 12-21 September. Greatest numbers in the non-grid area were encountered on 14 and 15 September north of Howland Island. Occasional high daily totals were recorded until 22 October, after which only a few stragglers were noted each day. It is difficult to differentiate between the two species by underwing linings when the birds are at a distance or when light conditions are changing. Flight patterns of the two species are similar and both forms appear to alter the pattern to meet sea and wind conditions, i.e., during periods of high wind and rough seas the birds usually fly in higher and more frequent arcs. Thus neither underwing color nor flight patterns could be used as positive criteria for separation of these species.

A total of six specimens was collected. The first specimen, taken from the small skiff, is unquestionably a Sooty Shearwater. The other specimens, at least by measurements, all fall within the range of Slender-billed Shearwaters. These last five were collected from the SHEARWATER. All specimens had enlarged gonads, very heavy fat and empty stomachs. At sea no individuals gave any indication of feeding behavior. They were often noted flying directly through feeding flocks of mixed terns and other shearwaters without slowing their flight. Single birds were commonly seen toward the end of the cruise, whereas during the height of the migration, single birds were seldom noted.

Christmas Island Shearwater a = 6 b = 1 c = 13

The majority of birds (11) was seen on October 28 and 31 near Christmas Island where large numbers of this species breeds. Four were seen along 5°N, north of Howland Island. Most birds were single sightings; apparently this species does not form large feeding congregations, even near the breeding islands. None was collected.

Audubon's Shearwater a = 0 b = 13 c = 19

Greatest numbers of this species were recorded near Canton Island and Christmas Island. Most birds were single sightings. Although superficially similar to Newell's Shearwater, the much smaller size, faster flight pattern and less extensive white rump patches of the Audubon's separate it quite readily from that species. None was collected.

Newell's Shearwater a = 43 b = 0 c = 2

One bird was sighted between Oahu and Christmas Island. All others were recorded just south of Oahu. None was collected.

Pale-footed Shearwater a = 1 b = 1 c = 0

One bird was observed north of Johnston Island on 15 September and another on 11 October north of Samoa. None was collected.

Dark-rumped Petrel a = 1 b = 0 c = 0

One individual was sighted south of Oahu on 7 September. None was collected.

White-necked Petrel a = 21 b = 0 c = 1

All individuals were sighted between Oahu and 5°N. Greatest numbers were recorded on 13 September. Only those individuals which were in close range could be positibely identified to this race. A total of 18 individuals could not be identified as to race. One specimen was collected.

Juan Fernandez Petrel   a = 96   b = 0   c = 69

All except one individual were recorded between Oahu and 5°N, although none of these was recorded in close proximity to Oahu. This scarcity near the Hawaiians was evident during August 1965. The complete lack of this species south of 5-6°N during the entire cruise is most striking. Six specimens were collected.

Bonin Island Petrel   a = 0   b = 0   c = 4
Black-winged Petrel   a = 69   b = 15   c = 229
Pterodroma hypoleuca (unidentified to race)   a = 40   b = 0   c = 41

Greatest numbers of Black-winged Petrels were found north of 2°S, although sporadic sightings occurred through most of the southern area. Quite likely most of the birds not identified to race are referable to this form. On the final portion of the cruise from Christmas Island to Oahu, a preponderance of Black-winged Petrels were headed in a southerly or southwesterly direction, often in strong direct flight as if migrating. Two specimens were collected.

Gould's Petrel   a = 9   b = 10   c = 0

Six birds were noted on 14 September at 5°N. All others were recorded south of the equator, six of them on 12 October, one day north of Samoa. No specimens were collected.

Phoenix Island Petrel   a = 0   b = 2   c = 61

Nearly all sightings were in the vicinity of Christmas Island where large numbers of this species breed. One specimen was collected at approximately 7°N. This apparently represents the first at-sea collected speciment.

Mottled Petrel   a = 0   b = 57   c = 82

Only one bird was seen during the first half of the trip from Oahu to American Samoa. A large number (52) was observed on 12 October north of Samoa, and sight-

.Mottled Petrel cont.

ings were made in variable numbers throughout the remainder of the trip. Almost all sightings were of single birds. Although the flight pattern of this species is similar to those of the Sooty and Slender-billed Shearwaters, the striking color combination of the Mottled Petrel permits separation from those two species at any distance that color can be noted. All individuals were migrating in fast, direct flight in a southerly or southwesterly direction. No feeding behavior was ever noted. One specimen was collected. As with other specimens collected in the grid area, it contained very heavy fat, empty stomach and enlarged gonads.

Kermadec Petrel a = 3 b = 2 c = 1

The six individuals were all single sightings scattered throughout the cruise area. Three of the sightings were of birds in mixed feeding flocks. None was collected.

Bulwer's Petrel a = 93 b = 10 c = 22

Large numbers were seen just south of Oahu during early September. Scattered sightings of low numbers were recorded throughout the remainder of the cruise. None was collected.

White-throated Storm Petrel a = 0 b = 2 c = 5

Two individuals were seen near McKean Island and four were noted near Christmas Island. This species apparently remains near the islands where it breeds. None was collected.

Harcourt's Storm Petrel a = 0 b = 0 c = 2

The two specimens were noted at very close range on 2 November between Christmas Island and Oahu. No doubt a portion of the 48 unidentified white-rumped storm petrels is referable to this species. Field identification of any of these three (Wilson's, Harcourt's, and Leach's) is possible only under exceptional conditions.

Leach's Storm Petrel a = 7 b = 0 c = 7

Seven individuals were recorded just south of Oahu in early September. Six were recorded between Christmas Island and Oahu during early November, and one was collected NE of Canton Island. A total of two specimens was collected.

Leach's Storm Petrel cont.

Probably the greater portion of the 48 identified white-rumped storm petrels are referable to this species. The V-shaped rump patch and forked tail are good field characters only at close range.

Red-tailed Tropicbird a = 19 b = 4 c = 40

Scattered sightings were recorded in all areas of the cruise. Concentrations were noted south of Oahu and near Christmas Island. Six specimens were collected.

White-tailed Tropicbird a = 12 b = 38 c = 13

This species was distributed throughout the entire cruise area in low numbers. Some concentration was found north of Samoa; a flock of 6 plus three Common Noddy was seen on 6 October and seven were noted in a large mixed feeding flock here on 11 October. One specimen was collected.

Blue-faced Booby a = 2 b = 418 c = 36

On 3 October just south of Enderbury, 400 (88 percent of the total) were recorded in an immense mixed feeding flock. Other than this large concentration, birds were distributed rather spareely through the Phoenix Islands and between Canton and Christmas Islands. None was recorded north of 10°N. Three specimens were collected, two of which were banded. Both banded birds were collected on 26 October, between Canton and Christmas Islands; of these, one had been banded on Enderbury, roughly 420 miles distant, the other had been banded on Birnie, roughly 455 miles distant. Also, Howland blue-streamered birds were noted as far away as Enderbury and between Canton and Christmas Islands, roughly 510 miles distant.

Brown Booby a = 10 b = 60 c = 9

Practically all sightings were in close proximity of breeding islands. The majority of birds (48) were recorded in a huge feeding flock just south

Brown Booby Cont.

of Enderbury on 3 October. Two orange-streamered immatures were noted perched on the offshore pilings adjacent to Johnston Island on 10 September. One specimen was collected near Canton Island.

Red-footed Booby a = 23 b = 1253 c = 271

Three areas of heavy concentration accounted for practically all the birds seen. On 3 October, 851 were recorded in a huge mixed feeding flock south of Enderbury; on 11 October, 355 were recorded north of Samoa in numerous mixed feeding flocks throughout the day, and on 28 October, 174 were recorded in mixed feeding flocks just west of Christmas Island. Two orange-streamered birds were recorded on 10 September within 24 miles of Johnston Island. Of nine specimens collected, two were banded. One banded bird from Enderbury was collected on 24 October near Canton, some 50 miles distant. The other, from Palmyra, was taken on 25 October between Canton and Christmas Islands, some 540 miles distant.

Great Frigatebird a = 26 b = 2 c = 5

Most of the birds identified to this species were seen near Oahu and near Johnston Island. An unknown percentage of the 434 unidentified frigatebirds seen through the Phoenix Islands and near Christmas Island must logically be referable to this species.

Lesser Frigatebird a = 0 b = 343 c = 0

Of the total of 343 birds identified to this species, 335 were noted over Hull Island on 4 October. A high percentage of the 434 unidentified frigatebirds (of which 360 were noted in an enormous feeding flock south of Enderbury) likely are referable to this species.

Golden Plover   a = 3   b = 46   c = 17

Scattered sightings of this species were recorded throughout the cruise, the majority of them south of 5°N. A flock of 21 was noted on 6 October just north of Samoa. One specimen was collected.

Ruddy Turnstone   a = 2   b = 10   c = 1

The majority of sightings were recorded between Howland Island and Samoa through the Phoenix Islands. One specimen was collected.

Wandering Tattler   a = 1   b = 1   c = 0

One was seen north of 5°N and one individual was collected between Samoa and the Phoenix group.

Sooty Tern   a = 2718   b = 2826   c = 2817

This species was seen commonly on most days throughout the cruise. Few concentrations were noted, except for expected higher numbers upon approach to some of the breeding islands such as Christmas, Hull and Enderbury. One unusually high daily total (1162) was recorded on 8 September, one day south of Oahu. Two orange-streamered adults were seen on this date, and another orange-streamered adult was sighted on 9 September, suggesting that at least some Sand-Johnston birds are to be found north of those islands during September. On several occasions Sooty Terns were noted sitting on the water. Two instances occurred on 23 October near Canton Island; in both cases an adult and an immature were noted together on the water. In one instance, the adult was seen feeding the young bird. A total of 29 specimens was collected.

Gray-backed Tern   a = 1   b = 49   c = 135

Most sightings throughout area b occurred through the Phoenix Islands. Practically all birds (131 of 135) in area c were observed offshore Canton Island on 24 October. Another 1000 unidentified terns may be referable either to this species or to Common Noddies.

Common Noddy Tern   a = 145   b = 581   c = 122

Practically all sightings were in close proximity to islands. Birds sighted at long distances from land were often perched on floating objects. One orange-streamered bird was sighted about 5 miles south of Johnston Island on 10 September. None was collected.

Hawaiian Noddy Tern   a = 0   b = 1113   c = 25

All 1113 birds recorded in area b were seen between Enderbury Island and Samoa (1000 in a large mixed feeding flock near Enderbury). The few in area c were recorded near Christmas Island and near Oahu. None was collected.

Blue-gray Noddy Tern   a = 0   b = 55   c = 3

Practically all sightings were through the Phoenix Islands and near Samoa. Two were noted near Christmas Island. None was collected.

Fairy Tern   a = 30   b = 540   c = 83

Scattered sightings of small numbers occurred throughout most of the cruise. Large concentrations amounting to 68% of the total were recorded in close proximity to Samoa. None was collected.

Arctic Tern   a = 0   b = 0   c = 1

One specimen, tentatively identified as belonging to this species, was collected from a large mixed feeding flock west of Canton Island on 23 October. This apparently represents the first specimen collected by project personnel.

Long-tailed Jaeger   a = 4   b = 3   c = 0

The few scattered sightings were recroded at widely separated points between Oahu and Samoa. A portion of the five unidentified jaegers may be referable to this species.

Pomarine Jaeger   a = 0   b = 3   c = 2

Three birds were recorded between the southern grid area and Samoa. Two others were sighted within a day north of Christmas Island. None was collected.

Skua   a = 0   b = 1   c =0

The single bird was observed on 5 October approximately 250 miles north of Samoa.

Pintail   a = 0   b = 0   c = 1

The single individual was sighted within good range on 1 November one day north of Christmas Island.

TABLE I. Summary of SIC 9 Non-Grid pelagic observations, 7 September to 5 November 1965.

a. Oahu to Southern Grid Area via Johnston Atoll, 7 to 15 September.

DIURNAL

Date	No. Miles	No. Hours	No. Birds	No. Species
7 September	82	8.0	556	14
8	129	12.6	2219	14
9	130	12.5	698	10
10	40	4.9	274	8
11	115	12.3	364	11
12	115	12.3	900	11
13	83	12.2	510	11
14	91	12.2	8984	12
15	78	9.1	5037	12
TOTALS	863	96.1	19542	26 (11.4 /day)

NOCTURNAL

Date	No. Miles	No. Hours	No. Birds	No. Species
8 September	20	2.0	25	5
9	35	3.7	131	3
10	34	3.8	18	2
11	14	1.5	1	1
12	15	1.5	2	1
13	14	1.4	10	1
14	13	1.3	155	1
15	2	0.2	28	1
TOTALS	147	15.4	370	6 (2.0/night

TABLE I. Cont.

b. Southern Grid Area to Samoa and return via Phoenix Islands, 20 September to 15 October.

DIURNAL

Date	No. Miles	No. Hours	No. Birds	No. Species
20 September	9	1.0	237	4
21	39	4.0	373	15
23	43	5.5	83	12
29	97	10.0	1360	15
01 October	40	3.8	142	12
03	45	4.5	3948	14
04	108	12.2	185	10
05	119	12.2	231	11
06	73	7.7	522	15
11	78	8.8	1220	13
12	126	12.3	160	10
13	108	12.2	384	16
14	104	12.2	214	17
TOTALS	989	106.4	9059	31 (12.6/day)

NOCTURNAL

Date	No. Miles	No. Hours	No. Birds	No. Species
13 October	35	3.5	48	4
14	35	3.5	1	1
TOTALS	70	7.0	49	4 (2.5/night)

TABLE I. Cont.

c. Southern Grid Area to Oahu via Canton and Christmas Islands, 23 October to 5 November 1965.

DIURNAL

Date	No. Miles	No. Hours	No. Birds	No. Species
23 October	97	12.1	896	16
24	95	12.1	1279	12
25	89	12.0	503	14
26	110	12.0	586	12
27	105	12.1	572	12
28	40	4.3	688	18
31	100	9.7	409	18
01 November	114	12.0	234	16
02	123	11.9	288	13
03	114	11.5	172	10
04	98	11.5	326	18
05	30	2.9	56	6
TOTALS	1115	124.1	6009	31 (13.8/day)
GRAND TOTAL (Diurnal)	2967	326.6	34610	38

NOCTURNAL

24 October	—	0.3	2026	?
GRAND TOTAL (Nocturnal)	217	22.7	2445	7
GRAND TOTAL (Diurnal + Nocturnal)	3184	349.3	37055	38

TABLE 2. Diurnal Density of species groups (Non-Grid SIC 9), September to November 1965.

Species Group	No. Birds	Birds/ Sq. Mi.	% Total Birds
Shearwater-Petrel	19038	3.21	55.0
Storm Petrel	71	0.02	0.2
Terns	12313	1.38	35.6
Tropicbirds	129	0.02	0.4
Boobies	2091	0.35	6.1
Frigatebirds	810	0.07	2.1
Shorebirds	83	0.03	0.3
Miscellaneous	75	0.01	0.2
TOTALS	34610	5.80	

TABLE 3. Diurnal abundance of species at-sea SIC 9, September to November 1965.

Species	No. Birds	Birds/ Linear mi.	No.Collected
Wedge-tailed Shearwater	2177	0.683	11
Sooty/Slender-billed Shearwater	15291	4.802	6
Christmas Island Shearwater	20	0.006	-
Audubon's Shearwater	32	0.010	-
Newell's Shearwater	45	0.014	-
Pale-footed Shearwater	2	0.0006	-
Dark-rumped Petrel	1	0.0003	-
Juan Fernandez Petrel	165	0.052	6
White-necked Petrel	22	0.007	1
Pterodroma externa (Unidentified to race)	18	0.006	-
Black-winged Petrel	313	0.098	2
Bonin Island Petrel	4	0.001	-
Pterodroma hypoleuca (Unidentified to race)	81	0.025	-
Gould's Petrel	19	0.006	-
Phoenix Island Petrel	63	0.019	1
Mottled Petrel	139	0.044	1
Bulwer's Petrel	125	0.039	-
Kermadec Petrel	6	0.002	-
White-throated Storm Petrel	7	0.002	-
Harcourt's Storm Petrel	2	0.0006	-
Leach's Storm Petrel	14	0.004	2
Red-tailed Tropicbird	63	0.019	6
White-tailed Tropicbird	63	0.019	1

TABLE 3. Cont.

Species	No. Birds	Birds/ Linear Mi.	No. Collected.
Blue-faced Booby	456	0.143	3
Brown Booby	79	0.025	1
Red-footed Booby	1547	0.485	9
Great Frigatebird	33	0.010	-
Lesser Frigatebird	343	0.108	-
Frigatebird (Unidentified to species)	434	0.136	-
Golden Plover	66	0.020	1
Ruddy Turnstone	13	0.004	1
Wandering Tattler	2	0.0006	1
Sooty Tern	8361	2.626	29
Gray-backed tern	185	0.058	-
Common Noddy tern	848	0.266	-
Hawaiian Noddy Tern	1138	0.357	-
Blue-Grey Noddy	58	0.018	-
Fairy Tern	653	0.205	-
Arctic Tern	1	0.0003	1
Terns (Unidentified to species)	1069	0.336	1
Long-tailed Jaeger	7	0.002	-
Pomarine Jaeger	5	0.001	-
Skua	1	0.0003	-
Pintail (duck)	1	0.0003	
Unidentified Shearwater-Petrel	490	0.158	-
Miscellaneous unidentified	148	0.046	-
TOTALS	34610	10.873	84

TABLE 4. Nocturnal Abundance of species at-sea SIC 9, September to November 1965.

Species	No. Birds	Birds/ linear Mi.	No. Collected
Wedge-tailed Shearwater	42	0.013	-
Sooty/Slender-billed Shearwater	198	0.062	-
Pterodroma externa (Unidentified to race)	2	0.0006	-
Black-winged Petrel	1	0.0003	-
Pterodroma hypoleuca (Unidentified to race)	2	0.0006	-
Bulwer's Petrel	2	0.0006	-
Golden Plover	1	0.0003	-
Sooty Tern	112	0.035	-
Tern (unidentified to species)	2000	0.628	-
Shorebird (Unidentified to species)	25	0.008	-
Unidentified Birds	60	0.019	-
Totals	2445	0.768	

TABLE 5. SIC 9 At-Sea banded and/or color-tagged birds observed or collected, September to November 1965.

Species	Date	Band or tag	Latitude	Longitude	Miles from origin
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	16-30N	169-34W	14
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	16-21N	169-36W	24 ✓
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	16-21N	169-36W	24 ✓
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	16-21N	169-36W	24 ✓
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	16-21N	169-36W	24 ✓
Wedge-tailed Shearwater	10 Sept.	Orange Streamer	15-56N	169-52W	54 ✓
Blue-faced Booby (Ad.)	01 Oct.	Blue Streamer	00-30S	171-00W	410
Blue-faced Booby (Subad)	25 Oct.	Blue Streamer	01-35S	168-21W	510
Blue-faced Booby (Subad)	26 Oct.	568-72233	00-07S	164-53W	420
Blue-faced Booby (Subad)	26 Oct.	757-66545	00-07S	164-53W	455
Brown Booby (Imm.)	10 Sept.	Orange Streamer	16-43N	169-31W	1
Brown Booby (Imm.)	10 Sept.	Orange Streamer	16-43N	169-31W	1
Red-footed Booby (Subad.)	10 Sept.	Orange Streamer	16-43N	169-31W	1
Red-footed Booby (Subad)	10 Sept.	Orange Streamer	16-21N	169-36W	24
Red-footed Booby (Subad)	24 Oct.	747-56438	02-32S	171-08W	50
Red-footed Booby (Subad)	25 Oct.	747-68289	01-17S	167-42W	540
Sooty Tern (Ad.)	08 Sept.	Orange Streamer	19-47N	161-57W	468 530
Sooty Tern (Ad.)	08 Sept.	Orange Streamer	19-15N	163-10W	391
Sooty Tern (Ad.)	09 Sept.	Orange Streamer	18-14N	165-39W	240
Sooty Tern (Ad.)	10 Sept.	Orange Streamer	16-43N	169-32W	Adjacent
Common Noddy	10 Sept.	Orange Streamer	16-39N	169-32W	5

Gould

SOUTHERN GRID Survey No. 1

PRELIMINARY REPORT AT-SEA SURVEY
September 1965

SOUTHERN GRID ONLY

This report is based on the observations and collections made within the Southern Grid area during late September 1965. Since no definite cruise pattern has yet been determined for the Southern Grid, all at-sea observations and collections made within a circle with a 100 mile radius of Baker Island are considered in this report. A total of 551 miles and 61 hours of diurnal observations were completed during the period 15-20 September 1965 (Table 1). 100 miles and 11.3 hours of nocturnal observations were completed during the period 16-19 September 1965 (Table 2).

The majority of grid work was performed by the Smithsonian team consisting of Richard Crossin (Biologist in Charge), Warren King, and Dayle Husted. The six members of the Howland-Baker Island survey party (Robert Fleet, Ken Amerman, Paul Woodward, Kam Kepler, Brian Harrington, and Jeff Tordoff) assisted in observations when aboard ship. The grid cruise was made aboard the U.S.N.S. SHEARWATER. Excellent cooperation and assistance were received from the officers and crew members.

A total of 35,974 birds were recorded within the grid area. Approximately 80 % of this total were migrating Sooty and/or Slender-billed Shearwaters. The majority of these were encountered on 16 and 20 September between Howland and Baker and south of Baker. Upon approach to Baker Island on 16 September, up to 180 birds per minute were recorded streaming past the ship. Besides the migrating shearwaters, large numbers of birds, primarily Sooty Terns, were encountered in feeding flocks. Heaviest concentrations were found to the west and south of Baker Island.

SPECIES ACCOUNT

Wedge-tailed Shearwater (448)

This species was commonly observed every day during the grid cruise. Nearly 90 % of the total was dark phase southern hemisphere birds. Greatest concentrations were noted in feeding flocks on 19 September west of Baker Island and on 20 September southeast of Baker. Although usually represented in all sizeable mixed feeding flocks, the percentage of Wedge-tailed Shearwaters was considerably less than in comparable flocks around the Hawaiian Islands. Two specimens were collected.

Sooty/Slender-billed Shearwater (28,580)

One, or more likely both species combined accounted for approximately 80 % of total birds recorded. Peak numbers were seen in the vicinity of Baker Island on 16 September (14,985) and on 20 September (11,845). During these peak days, birds predominantly showed dark underwing pattern and may tentatively be referable to Slender-billed Shearwaters. Practically all birds were headed due south in fast direct flight. No feeding activity was noted, nor was there any indication of feeding upon examination of stomachs of collected birds.. The two specimens collected had very heavy fat and enlarged gonads.

Newell's Shearwater (1)

The one individual was observed at close range on 18 September about 40 miles south of the equator. None was collected.

Audubon's Shearwater (1)

The single individual was observed in a large mixed feeding flock (Sooty Terns and Wedge-tailed Shearwaters) on 20 September a few miles south of the Equator. None was collected.

Black-winged Petrel (6)

The six individuals were all of single sightings during the period 15-18 September, five of them north of the equator. None was collected.

Gould's Petrel (2) [illegible]

Two birds tentatively identified as belonging to this species were sighted on 18 September a few miles south of the equator below Baker Island. None was collected.

Bulwer's Petrel (7)

All except two birds were of single sightings between 17 and 20 September. Two were noted together on the water on 18 September south of Baker Island. None was collected.

White-throated Storm Petrel (2)

The two birds were of single sightings on 20 September southeast of Baker Island. None was collected.

Red-tailed Tropicbird (5)

This species was usually observed singly during the period 16-19 September. Two were noted together on 17 September. None was collected.

White-tailed Tropicbird (4)

One individual was noted on 18 September and three single sightings were recorded on 19 September. None was collected.

Blue-faced Booby (50)

This species was common between Howland and Baker Islands. Large numbers of adults (25) were recorded about 35 miles north of Howland Island on 17 September. These were in mixed tern-shearwater feeding flocks or in close proximity to such flocks. Two birds were collected. One of these, an adult, was banded on Howland Island October 1963.

Brown Booby (14)

Ten of the 14 birds observed were sighted between Howland and Baker Islands on 16 September. None was collected.

Red-footed Booby (5)

Four of the five individuals were seen in a large mixed feeding flock about 12 miles south of Howland Island on 16 September. None was collected.

Lesser Frigatebird (3)

Only three birds could be identified with certainty as belonging to this species. 64 other frigatebirds which could not be identified as to species were recorded in the grid area, primarily in the vicinity of Howland and Baker Islands. Practically all frigatebirds not seen close to the islands were in mixed feeding flocks. None was collected.

Golden Plover (29)

This species was recorded every day during grid operations. Practically all sightings were of single birds. Plovers commonly circled the ship at close range which made for easy identification. One bird was collected.

Ruddy Turnstone (10)

Turnstones were recorded every day during the period 16-19 September. These were usually single birds; a group of three was recorded west of the islands on 19 September. They usually circled the ship at close range. Two birds were collected.

Wandering Tattler (1)

One bird was seen southeast of Baker Island on 18 September. None was collected.

Bristle-thighed Curlew (6)

A group of three ~~were~~ was recorded circling the ship between Howland and Baker Islands on 16 September. On 18 September a group of three ~~were~~ was noted about 30 miles southeast of Baker. None was collected.

Long-tailed Jaeger (6)

The six birds were all of single sightings during the period 15-19 September. These were often encountered in mixed feeding flocks and were seen chasing Sooty Terns. None was collected.

Pomarine Jaeger (2)

One bird was noted between Howland and Baker Islands on 16 September and one north of Howland Island on 17 September. Both birds were seen sitting on the water. None was collected.

Sooty Tern (6,606)

This species was seen in large numbers every day of the grid cruise. Most of the birds were in mixed feeding flocks. Numerous flocks were observed to the west of Howland-Baker and to the southwest and southeast of Baker Island (see Figure 3). Sooty Terns accounted for 92 % of all birds in

Sooty Tern cont.

flocks (disregarding Sooty/Slender-billed Shearwater flocks). From this preliminary cruise, it appears that the grid area as a whole serves as a suitable feeding ground for terns during this period. Intensive feeding, however, was seldom observed. Flocks would consistently break up and regroup at distant points. Six birds were collected.

Gray-backed Tern (1)

One bird was seen in a large mixed feeding flock N½NE Howland Island on 17 September. None was collected.

Common Noddy Tern (49)

Forty of the 49 birds observed were found in a large feeding flock (1,032) about 60 miles west of Baker Island on 19 September. Single birds were occasionally seen on floating debris. Three birds were collected.

Fairy Tern (34)

Scattered individuals or small groups were noted every day of the grid cruise, usually in mixed feeding flocks. A large concentration of 12 birds was noted in a huge feeding flock *ca.* 60 miles west of Baker Island on 19 September. None was collected.

TABLE 1. Summary of Southern Grid diurnal observations in September 1965.

Date	No. Miles	No. Hours	No. Birds	No. Species
15 September	25	3.1	441	7
16	86	11.0	16,668	14
17	113	12.1	762	19
18	121	12.1	1,271	17
19	106	12.1	3,218	14
20	100	10.6	13,614	10
TOTALS	551	61.0	35,974	24 (13.5/day)

TABLE 2. Summary of Southern Grid nocturnal observations in September 1965.

Date	No. Miles	No. Hours	No. Birds	No. Species
16 September	26	3.2	5	?
17	31	3.3	13	3
18	30	3.5	7	3
19	13	1.3	101	4
TOTALS	100	11.3	126	5

TABLE 3. Diurnal density of species groups (Southern Grid) September 1965.

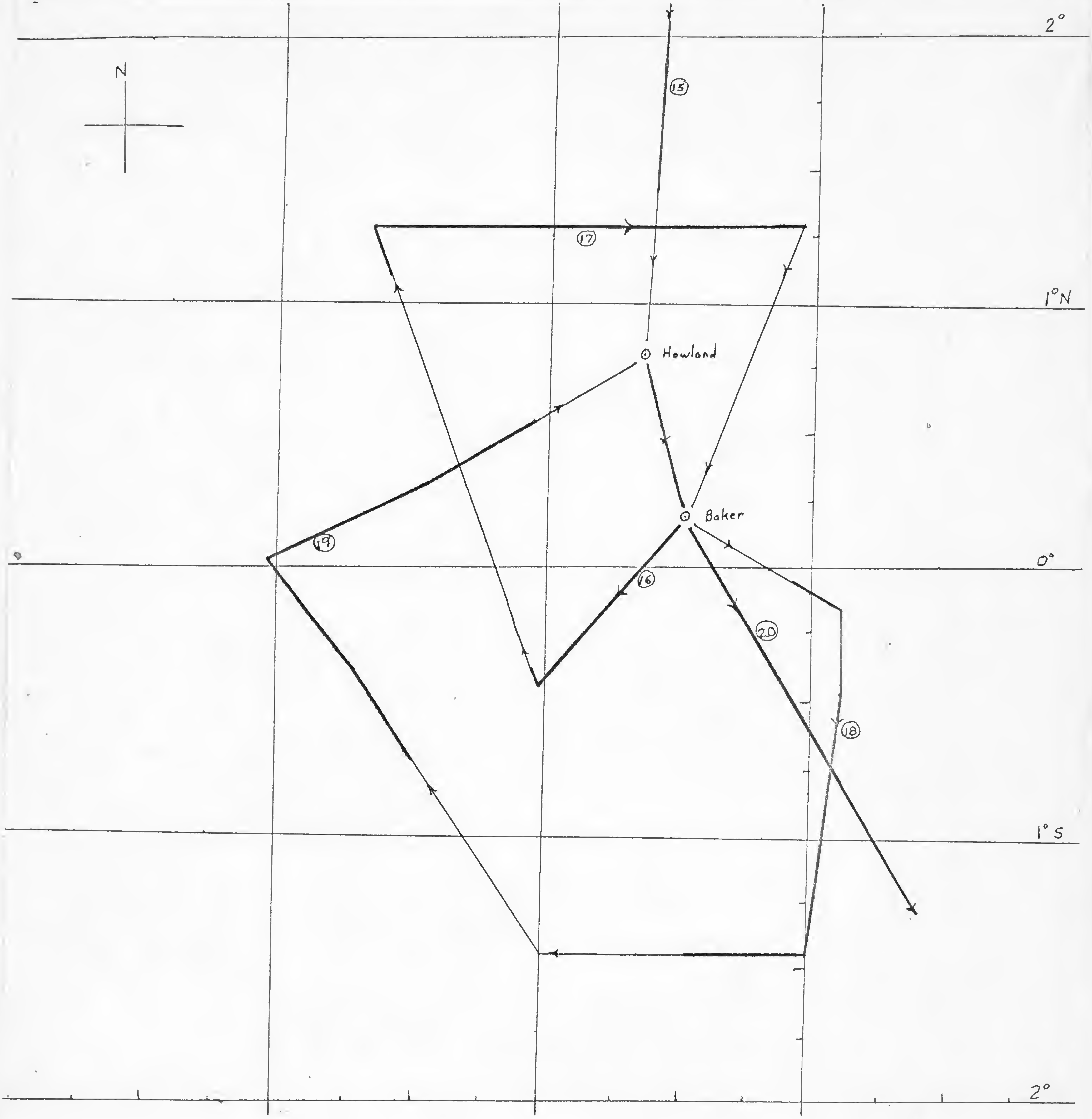
Species Group	No. Birds	Birds/ sq. mi	Estimated Population /31,400 sq. mi.	% Total Birds
Shearwater-Petrel	29,075	26.4	828,960	80.8
Storm Petrel	4	< 0.01	< 314	< 0.01
Terns	6,690	4.1	128,740	18.6
Tropicbirds	10	< 0.01	< 314	< 0.03
Boobies	72	< 0.07	< 2,198	0.2
Frigatebirds	67	0.06	1,884	0.2
Shorebirds	46	< 0.1	< 3,140	0.1
Miscellaneous	10	< 0.01	314	< 0.01
TOTALS	35,974	32.6		100.0

TABLE 4. Abundance of species within the Southern Grid, September 1965.

Species	No. Birds	Birds/ Linear Mile	No. Collected
Wedge-tailed Shearwater	448	0.81	2
Sooty/Slender-billed Shearwater	28,580	51.87	2
Newell's Shearwater	1	0.002	
Audubon's Shearwater	1	0.002	
Black-winged Petrel	6	0.01	
Gould's Petrel	2	0.004	
Bulwer's Petrel	7	0.01	
White-throated Storm Petrel	2	0.004	
Red-tailed Tropicbird	5	0.01	
White-tailed Tropicbird	4	0.01	
Blue-faced Booby	50	0.09	2
Brown Booby	14	0.03	
Red-footed Booby	5	0.01	
Lesser Frigatebird	3	0.006	
Golden Plover	29	0.05	1
Ruddy Turnstone	10	0,02	2
Wandering Tattler	1	0.002	
Bristle-thighed Curlew	6	0.01	
Long-tailed Jaeger	6	0.01	
Pomarine Jaeger	2	0.004	
Sooty Tern	6,606	11.99	6
Gray-backed Tern	1	0.002	
Common Noddy Tern	49	0.09	3
Fairy Tern	34	0.06	
Unidentified Shearwater-Petrel	32	0.06	
Unidentified Frigatebirds	64	0.12	
Other (unidentified)	6	0.01	
TOTALS	35,974	65.29	18

TABLE 5. Banded and/or color-tagged birds observed or collected, September 1965.

Species	Date	Band or Tag	Latitude	Longitude	Origin
Blue-faced Booby	17	737-28636	1-16 N	176-44 W	Howland Island October 1963

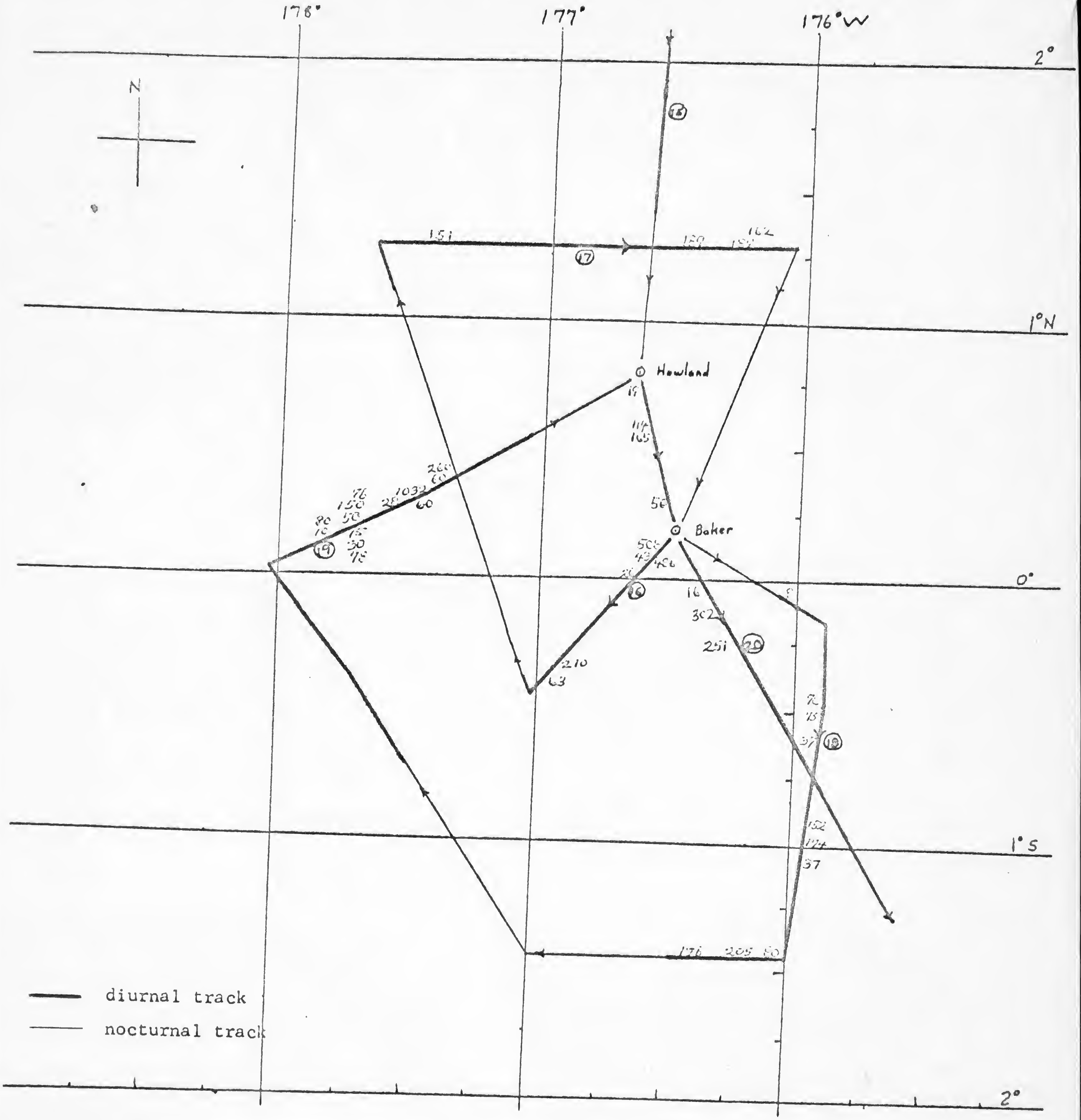

178°
177°
176°W
2°
N
⑮
⑰
1°N
Howland
Baker
⑲
0°
⑯
⑳
⑱
1°S
2°

— Nocturnal

━ Diurnal

Fig. 1. SOUTHERN GRID cruise track 15-20 September 1965.

Circled numbers= date.
2″= 60 nautical miles at 0° latitude.



178°
177°
176°W
2°
1°N
0°
1°S
2°
N
Howland
Baker
15
17
19
16
20
18
151
150
152
162
19
114
165
56
260
60
76
150
50
1032
28
60
80
10
75
30
75
506
43
426
20
16
302
251
8
210
63
72
75
37
152
174
37
176
205
80
diurnal track
nocturnal track

Fig. 2. Flock distribution in the Southern Grid- 15-20 September 1965.

Circled numbers = date.
Uncircled numbers = size of respective bird flocks.

Scale: 2 inches = 60 miles at 0 degrees latitude.

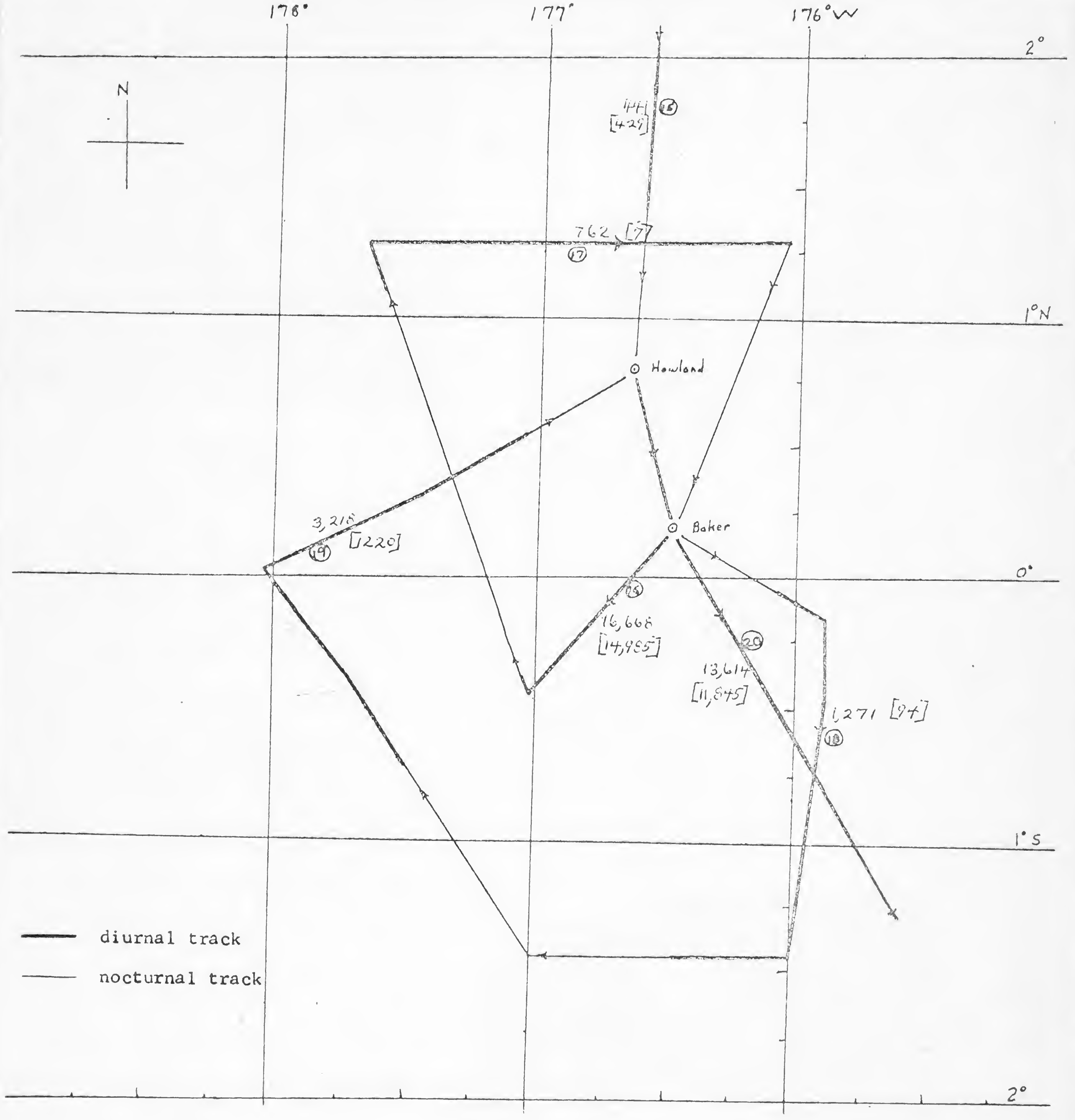

178°
177°
176°W
2°
N
444 ⑮
[429]
762 [7]
⑰
1°N
Howland
Baker
3,218
[1220]
⑲
0°
⑯
16,668
[14,985]
⑳
13,614
[11,845]
1,271 [94]
⑱
1°S
diurnal track
nocturnal track
2°

Fig. 3. Daily abundance of birds in the Southern Grid - 15-20 September 1965.

Circled numbers= date.
Uncircled numbers= respective daily total birds.
Numbers in brackets= Sooty/Slender-billed Shearwaters.

Scale: 2 inches = 60 miles at 0 degrees latitude.

DATE TUES. 7 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	~~21-08~~	~~158-16~~													
0200	~~21-04~~	~~158-27~~													
0300	~~21-00~~														
0400	~~21-56~~														
0500															
0600															
0700															
0800															
0900															
1000	[illegible]	157-52													
1100	21-15	158-00													
1200	21-115	158-08	PTCLDY	20	1016	81	74	79	5	4	130-8-3	83	10	130	247-11
1300	21-08	158-16	" "	20	1015	82	72	72	7	6	130-8-2	83	5	230	247-11
1400	21-04	158-27	CLOUDY	20	1014 ~~2994~~	83	72	69	9	8	130-8-2	83	3	220	247-11
1500	21-00	158-38	"	20	1014	84	74	73	9	8	150-7-3	83	4	120	247-11
1600	20-56	158-49	"	20	1013	85	74	70	9	8	170-7-3	83	5	110	247-11
1700	20-52	158-56	O'cast	20	1013	81	73	76	9	8	140-7-3	83	5	130	247 10.5
1800	20-48	159-07	"	"	1013	81	73	76	9	8	140-7-3	83	7	090	247 10.5
1900	20-44	159-17	" /[illegible]	15	1013	80	73	79	9	8	140-7-3	83	5	090	247 10.5
2000	20-40	159-26	" "	15	1014	80	73	79	9	8	140-7-3	83	7	080	247 10.5
2100	20-37	159-37	O'CAST	10	1015	76	73	91	10	10	130-6-3	83	7	130	247 10.5
2200	20-34	159-47	RAIN	10	1016	76	73	91	10	10	130-6-3	83	5	130	247 10.5
2300	20-30	159-57	"	10	1016	76	73	91	10	10	130-6-3	83	7	130	247-10.5
2400	20-25	160-10	"	10	1016	76	73	91	10	10	130-6-3	83	7	130	247-10.5

20.
10-20

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE WED 8 SEPT, 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20-23	160-22	O'CAST	15	1014	80	74	83	10	9	130-5-3	82	9	125	247° - 10.5
0200	20-20	160-32	"	15	1014	80	74	83	10	9	130-5-3	"	8	120	246 - 10.5
0300	20-14	160-43	CLOUDY	15	1013	78	74	87	9	8	130-5-3	"	CALM		246 - 10.5
0400	20-10	160 53	"	15	1013	78	74	87	8	6	130-5-3	"	CALM		246 - 10.5
0500	20-03	161-08	Ptly Cldy	15	1013	80	73	79	7	5	130-5-3	82	Calm		246 10-5
0600	19-58	161-18	" "	26	1014	80	73	79	3	2	130-5-3	82	7	140	247 10.5
0700	19-54	161-29	" "	26	1014	82	75	80	3	2	130-5-3	82	7	140	247 10.5
0800	19-50	161-39	" "	20	1015	82	75	80	3	1	130-5-3	82	7	140	247 10.5
0900	19-46	161-49	Few Clds	20	1016	82	75	80	3	2	140-5-3	82	10	140	247 10.5
1000	19-42	161-59	"	20	1016	82	75	80	3	2	140-5-3	82	10	140	247 - 10.5
1100	19-38	162-10	"	20	1016	82	75	80	3	2	140-5-3	82	10	140	247 - 10.5
1200	19-34	162-20	"	20	1016	82	75	80	3	2	140-5-3	82	10	140	247 - 10.5
1300	19-30	162-32	"	20	1014	82	72	72	3	2	140-5-3	83	10	140	247 - 10.5
1400	19-26	162-41	"	20	1013	82	71	69	4	3	140-5-3	83	10	135	247 - 10.5
1500	19-22	162-51	"	20	1013	82	71	69	3	2	140-5-3	83	10	140	247 - 10.5
1600	19-18	163-02	"	20	1012	82	71	69	3	2	140-5-3	83	9	140	247 - 10.5
1700	19-15	163-10	Ptly Cldy	20	1013	82	72	72	5	3	140-5-3	83	10	120	247 10.5
1800	19-12	163-19	" "	20	1014	82	74	76	4	2	140-5-3	83	8	140	247 10.5
1900	19-08	163-30	" "	20	1015	82	74	76	3	1	140-5-3	83	8	130	247 10.5
2000	19-04	163-40	" "	20	1015	81	73	76	2	1	140-5-5	83	10	130	247 10.5
2100	19-00	163-50	FEW Clds	20	1016	81	73	76	1	1	140-5-4	83	5	140	247 10.5
2200	18-56	164-00	"	20	1016	81	73	76	1	1	140-5-4	83	5	140	247 10.5
2300	18-51	164 10	"	20	1016	81	73	76	1	1	140-5-4	83	5	140	247 10.5
2400	18-47	164 20	"	20	1016	81	73	76	1	1	140-5-4	83	5	140	247 10.5

ZD+10-40

ZD+11

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY AFTER 0500); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE THURS 9 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%/o	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	18-43	164-27	FEW CLDS	20	1014	80	72	75	1	1	140-5-4	82	5	120	247	10.5
0200	18-39	164-36	" "	20	1013	80	73	79	1	1	140-5-4	82	8	120	247	10.5
0300	18-35	164-47	" "	20	1013	80	73	79	2	1	140-5-4	82	7	120	247	10.5
0400	18-31	164-57	" "	20	1013	80	73	79	3	2	140-5-4	82	8	115	247	10.5
0500	18-26	165-08	" "	20	1014	80	72	75	2	1	140-5-4	82	5	090	247	10.5
0600	18-22	165-19	" "	20	1014	81	73	75	1	0	140-5-3	82	7	100	247	10.5
0700	18-18	165-29	" "	20	1014	81	73	75	1	0	140-5-3	82	7	100	247	10.5
0800	18-14	165-39	" "	20	1015	83	73	73	1	0	140-5-3	82	7	100	247	10.5
0900	18-10	165-49	Clear	20	1016	83	73	73	1	0	140-5-3	83	7	130	247	10.0
1000	18-06	165-58	"	20	1016	83	73	73	1	0	140-5-3	83	7	140	247	10.0
1100	18-02	166-06	"	20	1016	83	73	73	1	0	140-5-3	83	7	140	247	10.0
1200	17-58	166-16	Clear	20	1016	83	73	73	1	0	140-5-3	83	7	140	247	10.5
1300	17-54	166-27	"	20	1013	87	72	61	1	0	140-5-3	83	7	080	247	10.5
1400	17-49	166-38	FEW CLDS	20	1012	87	72	61	1	0	140-5-3	83	7	080	247	10.5
1500	17-45	166-50	" "	20	1012	88	73	61	1	0	140-5-3	83	8	070	247	10.5
1600	17-41	167-00	" "	20	1012	87	72	61	1	0	140-5-3	83	8	070	247	10.5
1700	17-40	167-10	Clear	26	1013	85	71	62	0	0	140-5-3	83	10	070	247	10.5
1800	17-37	167-21	"	20	1014	85	71	62	0	0	140-5-3	83	10	070	247	10.5
1900	17-34	167-31	"	20	1014	81	70	75	1	0	140-5-3	83	8	070	247	10.5
2000	17-30	167-40	Ptly Cldy	20	1015	81	73	75	1	0	140-5-5	83	7	070	247	10.5
2100	17-25	167-50	Clear	20	1015	81	73	79	1	0	140-5-4	83	10	080	245	10.8
2200	17-20	168-00	"	20	1015	81	73	79	1	0	140-5-4	82	10	080	245	10.8
2300	17-14	168-11	"	20	1015	81	73	79	1	0	140-5-4	83	10	080	245	10.8
2400	17-10	168-22	"	20	1015	81	73	79	1	0	140-5-4	83	10	080	245	10.8

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY,); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE FRI. 10 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17-06	168-32	FEW CLDS	20	1012	81	74	79	1	1	140-5-4	83	10	085	245 - 10.8
0200	17-03	168-41	" "	20	1012	81	73	75	1	1	140-5-4	83	8	100	245 - 10.8
0300	16-59	168-51	" "	20	1012	80	74	83	2	1	140-5-4	83	10	080	245 - 10.8
0400	16-53	169-03	" "	20	1012	80	74	83	2	1	140-5-4	83	9	070	243 - 10.8
0500	16-49	169-14	" "	20	1012	80	72	75	1	0	140-5-3	83	9	090	245 10
0600	16-45	169-23	" "	20	1013	80	73	79	1	2	140-5-3	83	9	090	230 6
0700															
0800															
0900	Johnston I.														
1000															
1100															
1200															
1300															
1400															
1500															
1600	16-36	169-33	FEW CLDS	20	1011	82	72	72	3	2	130-5-4	83	9	135	199 - ~~10~~ 9.5
1700	16-28	169-37	" "	20	1012	82	74	76	1	0	130-5-4	83	10	080	199 ~~10~~ 9.5
1800	16-20	169-41	" "	20	1013	82	74	76	1	0	130-5-4	83	11	090	199 ~~10~~ 9.5
1900	16-12	169-45	" "	20	1013	82	74	76	2	1	130-5-4	83	10	090	199 9.5
2000	16-03	169-49	" "	20	1013	82	74	76	1	0	130-5-4	83	10	090	199 9.5
2100	15-54	169-52	"	20	1015	82	74	76	1	0	130-5-5	83	12	090	199 9.5
2200	15-45	169-56	"	20	1015	82	74	76	1	0	130-5-5	83	12	090	199 9.5
2300	15-36	169-59	"	20	1015	82	74	76	1	0	130-5-5	83	12	090	199 9.5
2400	15-28	170-03	"	20	1015	82	74	76	1	0	130-5-5	83	12	090	199 9.5

REMARKS:

XRAY

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SAT 11 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15-15	170-08	Few Clds	20	1014	81 77	75	83	2	1	130-5-5	83	14	080	199 9.5
0200	15-05	170-12	" "	20	1013	81	75	83	4	3	130-5-5	83	12	080	199 9.5
0300	14-56	170-15	" "	20	1013	81	74	79	3	2	130-5-5	83	12	050	199 10
0400	14-46	170-19	" "	20	1013	81	74	79	3	2	130-5-5	83	13	080	199 10
0500	14-41	170-21	" "	20	1013	81	74	79	3	2	130-5-5	83	12	050	199 10
0600	14-32	170-24	" "	20	1013	81	74	79	3	1	130-5-5	83	11	080	199 10
0700	14-23	170-27	" "	20	1013	82	75	80	3	1	130-5-5	83	11	080	199 10
0800	14-14	170-30	" "	20	1013	83	76	80	3	2	130-5-5	83	10	080	199 10
0900	14-05	170-34	"	20	1014	83	74	76	2	1	100-5-5	83	12	080	199 9.7
1000	13 57	170-38	"	20	1014	83	74	76	2	1	100-5-5	83	12	080	199-9.7
1100	13-48	170-39	"	20	1014	83	74	76	2	1	100-5-5	83	12	080	199-9.7
1200	13-38	170-42	"	20	1014	83	74	76	2	1	100-5-5	83	12	080	200-9.7
1300	13-30	170-48	" "	20	1013	84 78	76	76	2	1	100-5-5	83	13	080	200-9.7
1400	13-22	170-52	" "	20	1012.5	84	74	73	3	2	100-5-5	83	14	065	200-9.7
1500	13-13	170-57	" "	20	1012	84	74	73	4	3	080-5-5	83	12	065	200-9.7
1600	13-04	171-00	PT. CLDY	20	1012	84	74	73	5	4	080-5-5	83	12	065	200-9.7
1700	12-56	171-08	" "	20	1012	84	74	73	4	3	080-5-5	83	12	070	200 9.7
1800	12-48	171-13	" "	20	1012	82	75	80	5	3	080-5-5	83	11	070	200 9.7
1900	12-40	171-18	" "	20	1013	82	75	80	4	3	080-5-5	83	11	070	200 9.7
2000	12-31	171-20	" "	26	1013	81	76	82	3	3	080-5-5	83	11	070	200 9.7
2100	12-21	171-24	"	20	1015	81	76	82	3	2	080-5-5	83	12	070	199 10.4
2200	12-02	171-28	"	20	1015	81	76	82	3	2	080-5-5	82	12	070	199 10.4
2300	12-01	171-32	"	20	1015	81	76	82	3	2	080-5-5	83	14	070	199 10.4
2400	11-52	171-35	"	20	1015	81	76	82	3	2	080-5-5	82	14	070	199 10.4

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SUN 12 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	11-42	171-40	PT CLDY	20	1013.8	82 78	77	84	4	3	080-5-5	84	14	065	199 - 10.4
0200	11-32	171-43	FEW CLDS	20	1012	82	78	88	3	2	080-5-5	84	15	070	199 10.4
0300	11-22	171-47	" "	20	1012	82	78	88	3	2	080-5-5	84	15	070	199 10.4
0400	11-11	171-51	" "	20	1011	82	78	88	3	2	080-5-5	84	14	065	199 10.4
0500	10-57	171-57	Mly Cldy	20	1012	82	77	84	5	3	080-5-5	84	12	060	199 10.4
0600	10-45	172-00	" "	20	1012	82	77	84	3	1	080-5-5	84	12	060	199 11
0700	10-35	172-04	" "	20	1012	82	77	84	3	1	080-5-5	84	11	080	199 11
0800	10-25	172-08	" "	20	1013	84	77	80	4	2	080-5-5	84	13	060	199 11
0900	10-15	172-12	"	20	1014	85	76	76	3	2	080-5-5	84	15	070	199 10.5
1000	10-05	172-16	"	20	1014	85	76	76	3	2	080-5-5	84	15	070	199 10.5
1100	10-00	172-24	"	20	1014	85	76	76	3	2	080-5-5	84	15	070	199 10.5
1200	9-50	172-28	"	20	1014	85	76	76	3	2	080-5-5	84	15	070	199 10.5
1300	9-44	172-30	Few CLDS	20	1013.3	84 79	77	80	2	1	080-5-5	84	14	070	199 10.5
1400	9-37	172-33	PT CLDY	20	1012	84	77	80	4	3	080-5-5	84	11	080	199 - 10.5
1500	9-28	172 37	" "	20	1012	84	77	80	3	2	080-5-5	84	12	075	199 - 10.5
1600	9-18	172-41	" "	20	1011	83	78	84	3	2	080-5-5	84	12	070	199 - 10.5
1700	9-08	172 45	" "	20	1011	82	77	84	7	5	080-5-5	84	11	060	199 10.5
1800	8-02	172 51	" "	20	1012	82	78	88	7	6	080-5-5	84	9	060	199 10.5
1900	8-56	172-54	" "	26	1012	82	78	88	8	6	080-5-5	84	7	060	199 10.5
2000	8-47	172-58	Cldy & rain	20	1013	81	79	84	8	6	080-5-5	84	6	060	199 10.5
2100	8-37	173-01	Cldy-w/rain	20	1014	81	74	83	5	4	080-4-2	84	0	—	199 - 10.5
2200	8-27	173-05	"	20	1014	81	74	83	5	4	080-4-2	84	0	—	199 - 10.5
2300	8-17	173 09	"	20	1014	81	74	83	5	4	080-4-2	84	0	—	199 - 10.5
2400	8-07	173-13	"	20	1014	81	74	83	5	4	080-4-2	84	0	—	199 - 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE MON 13 SEPT 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	7°-57	173-15	PT CLDY	20	1013.3	82 74	78	88	5	4	080-4-2	84	0	—	199-10.5
0200	7-47	173-18	FEW CLDS	20	1012	82	77	84	3	2	080-4-2	84	0	—	199-10.5
0300	7-37	173-02	" "	20	1012	82	77	84	3	2	080-4-2	84	0	—	199-10.5
0400	7-38	173-06	" "	20	1012	82	77	84	2	1	080-4-2	84	0	—	199-10.5
0500	7-23	173-30	Ptly Cldy	20	1012	84	76	76	5	2	080-4-2	84	0	—	199 10.0
0600	7-15	173-34	" "	20	1013	83	76	80	7	5	060-4-2	84	0	—	199 10.0
0700	7-05	173-38	Ptly Cldy	20	1013	83	76	80	4	2	060-4-2	84	0	—	199 10
0800	6-56	173-42	" "	20	1013	83	74	80	5	2	060-4-2	84	5	270	199 10
0900	6-46	173-41	Few Clds	20	1014	86	76	73	3	2	050-4-3	85	5	250	199 9.5
1000	6-37	173-43	"	20	1014	86	76	73	3	2	050-4-3	85	5	250	199. 9.5
1100	6-27	173-45	"	20	1014	86	76	73	3	2	050 4-3	85	4	250	199. 9.5
1200	6-18	173 48	"	20	1014	86	76	73	3	2	050 4-3	85	4	250	203 9.5
1300	6-17	173-48	" "	20	1012.8	87 71	76	70	2	1	050-4-3	86	1	230	203 9.5
1400	6-08	173-50	" "	20	1011	88	74	64	2	1	050-4-3	86	1	230	203 9.5
1500	5-59	173-55	" "	20	1011	88	74	64	1	1	050-4-3	86	1	190	203 9.5
1600	5-50	173 58	" "	20	1010	88	74	64	1	1	050-4-3	86	0	—	203 9.5
1700	5-48	174-00	" "	20	1010	88	74	64	2	1	050-4-3	86	0	—	203 9.5
1800	5-46	174-03	" "	20	1011	86	75	70	2	1	050-4-3	86	0	—	203 8
1900	5-45	174-05	" "	20	1011	86	75	70	2	1	050-4-3	86	0	—	203 8
2000	5-37	174-08	" "	20	1012	86	75	75	2	1	050-4-3	86	0	—	205 8
2100	5-29	174-11	PARTLY CLD	20	1014	86	75	70	5	5	050-4-2	86	0	—	205-8
2200	5-22	174-13	"	20	1014	86	75	70	5	5	050-4-2	86	0	—	205-8
2300	5-14	174-16	"	20	1014	86	75	70	5	5	050-4-2	86	0	—	205-8
2400	5-08	174-19	"	20	1014	86	75	70	5	5	050-4-2	86	0	—	205-8

REMARKS:

ALL TIMES LOCAL ~~(WHISKEY)~~ X RAY; WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE TUES. 14 SEPT 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	5-00	174-22	CLOUDY	20	1013	84 78	76	76	9	8	050-4-2	86	2	300	270-7
0200	5-01	174-29	"	15	1812	84	76	76	9	8	050-4-2	86	—	—	270-7
0300	5 01	174-36	O'CAST	15	1812	84	76	76	10	10	050-4-2	86	4	210	270-7
0400	5-03	174-42	" "	15	1012	84	76	76	10	10	050-4-2	86	5	220	270-7
0500	5-03	174-49	O'cast	15	1012	82	75	80	10	8	050-4-2	86	4	180	270 7
0600	5-05	174-57	" w/drig.	15	1012	82	75	80	10	8	050-4-2	86	4	180	270 7
0700	5-05	175-04	" "	15	1012	82	77	84	10	10	Conf.	86	9	160	270 9
0800	5-07	175-12	" "	15	1012	82	77	84	10	10	"	86	10	160	270 9
0900	5-07	175-19	O'CAST-RAIN	10	1015	79	75	91	10	10	180-8-4	87	10	130	270 8.5
1000	5-08	175-27	"	10	1015	79	75	91	10	10	180-8-4	87	10	130	270 8.5
1100	5-09	175-35	"	10	1015	79	75	91	10	10	180-8-4	87	10	130	270 8.5
1200	5-10	175-43	"	10	1015	79	75	91	10	10	180-9-4	87	10	130	270 8.5
1300	5-11	175-51	O'CAST	15	1013.3	80 76	74	83	10	10	180-9-4	86	10	135	270 - 8.5
1400	5-12	175-58	O'CAST - RAIN	10	1012	81	75	83	10	10	180-9-4	86	7	240	270 - 8.5
1500	5-14	176-06	O'CAST	15	1011	82	76	82	10	10	180-9-4	86	8	230	270 - 8.5
1600	5-15	176-14	" "	15	1010	82	76	82	10	10	180-9-4	86	8	240	270 - 8.5
1700	5-16	176-22	" w/drig.	15	1010	81	75	83	10	10	180-9-4	86	8	230	270 8.5
1800	5-17	176-30	" "	15	1010	81	75	83	10	10	180-9-4	86	8	230	270 8.5
1900	5-06	176-0029	O'cast	20	1011	81	75	83	10	8	180-9-4	86	8	240	180 10.5
2000	4-55	176-0028	"	20	1011	81	75	83	10	8	180-9-4	86	7	220	180 10.5
2100	4-46	176-0029	Few Clds	20	1013	82	77	84	3	2	180-8-4	86	Airs	—	180 10.5
2200	4-36	176-0030	"	20	1013	82	77	84	3	2	180-8-4	86	Airs	—	180 10.5
2300	4-25	176-0030	"	20	1013	82	77	84	3	2	180-8-4	86	Airs	—	180 10.5
2400	4-15	176-0130	"	20	1013	82	77	84	3	2	180-8-4	86	Airs	—	182 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE WED 15 SEPT. 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	4°-04	176°-31	FEW CLDS	20	1012.3	82 78	77	84	2	1	180-8-4	86	4	325	182-10.5
0200	3° 53	176°-32	CLOUDY	15	1012	82	77	84	8	6	180-8-4	86	AIRS		182-10.5
0300	3° 42	176°-32	"	20	1011	82	77	84	9	7	180-8-4	86	AIRS		182-10.5
0400	3° 31	176°-32	"	20	1011	82	77	84	9	7	180-8-4	86	AIRS		182-10.5
0500	3-23	176-30	Ptly Cldy	20	1011	82	77	84	7	4	180-8-4	86	AIRS		182 10.5
0600	3-13	176-30	" "	20	1011	82	77	84	5	3	180-8-4	86	AIRS		182 10.5
0700	3-03	176 29	" "	20	1011	82	77	84	5	3	180-8-4	86	5	320	182 10.5
0800	2-52	176 28	" "	20	1012	82	77	84	4	2	180-7-4	86	AIRS		182 10.5
0900	2-45	176-27	"	20	1013	87	74	67	5	4	180-8-4	86	1	-	182 10
1000	2-35	176-26	"	20	1013	87	74	67	5	4	180-8-4	86	1	-	190 9.0
1100	2-26	176-24	"	20	1013	87	74	67	5	4	180-8-4	86	"	-	190 9.0
1200	2-18	176-25	"	20	1013	87	74	67	5	4	180-8-4	86	"	-	190 9.0
1300	2-08	176-27	" "	20	1012.3	86 78	75	70	6	4	180-8-4	87	3	330	190- 9.0
1400	2-05	176-24	CLOUDY	15	1011	87	77	73	8	7	180-8-4	87	2	280	195- 9.0
1500	1-58	176-25	"	15	1010	87	77	73	9	8	180-8-4	87	AIRS		195- 9.0
1600	1-49	176-27	O'CAST, RAIN	1	1010	82	77	84	10	10	180-8-4	87	12	220	195- 9.5
1700	1-43	176-33	" "	15	1011	80	76	87	9	8	180-8-4	87	7	330	185 9.5
1800	1-33	176-36	" "	15	1011	82	76	87	9	8	180-8-4	87	5	330	185 9.5
1900	1-24	176-40	Ptly Cldy	15	1011	81	76	84	7	5	135-6-3	87	AIRS		185-9.5
2000	1 14	176-39	" "	20	1012	81	76	84	5	3	135-6-3	87	"		175 9.0
2100	0-57	176-31	FEW CLDS	20	1012	81	75	83	4	3	135-6-3	87	AIRS		175 9.0
2200	0-50	176-37	" "	20	1013	81	75	83	2	1	135-6-3	87	AIRS		230 9.0
2300															
2400															

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE THURS. 16 SEPT '65

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL ~~WAVES~~	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700			RAIN/W												
0800	0-47	176 36	O'CAST												
0900	0-39N	176-33W	~~1013~~	20	1013	83	74	76	8	7	180-6-3	86	090	5	165-9.5
1000	0-28N	176-32W	~~1013~~	20	1013	83	74	76	8	7	180-6-3	86	090	5	170-9.5
1100	0-19N	176-28W	~~1013~~	20	1013	83	74	76	8	7	180-6-3	86	090	4	186-9.5
1200	0-12	176.29													
1300															
1400	0-04N	176-36W	PT CLDY	20	1011	88	74	64	6	4	170-7-3	86	120	3	219-~~10~~ 9.5
1500	0-03'S	176-42W	FEW CLDS	20	1010	88	74	64	5	4	170-7-3	86	150	4	219-9.5
1600	0-08'S	176-46W	" "	20	1010	88	74	64	4	3	170-7-3	86	160	4	219-9.5
1700	0-15 S	176-52W	" "	20	1010	86	74	67	2	1	170-7-3	86	Airs		219 9.5
1800	0-22 S	176-57W	" "	20	1010	85	73	67	2	1	170-7-3	86	Airs		219 9.5
1900	0-24S	177-02W	" "	20	1010	85	73	67	1	0	170-7-4	86	Airs		219 9.5
2000	0-17S	177-04W	" "	20	1011	84	74	73	1	0	170-7-4	86	Airs		339 7
2100	0-10 S	177-07W	Clear	20	1012	84	74	73	0	0	170-7-4	86	Airs		339-8
2200	0-2S	177-10W	"	20	1013	84	74	73	0	0	170-7-4	86	"	"	339-8
2300	0-5N	177-13W	"	20	1013	84	74	73	0	0	170-7-4	86	"	"	339-8
2400	0-13N	177-16W	"	20	1013	84	74	73	0	0	170-7-4	86	"	"	339-8

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE FRI 17 SEPT 1966

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	0°-20'N	177°-18'	CLEAR	20	~~84~~ 1012.3	84	76	76	1	1	170-7-4	86	AIRS		339-8
0200	0-27	177-21	PT. CLDY	20	1011	83	76	80	4	3	170-7-3	86	AIRS		339-8
0300	0-34	177-24	FEW CLDS	20	1011	83	76	80	3	2	170-7-3	86	AIRS		339-8
0400	0-42	177-26	" "	20	1010	83	76	80	3	2	170-7-3	86	AIRS		339-8
0500	0-57 N	177-30	Mly Cldy	20	1010	82	77	84	7	4	170-7-3	86	Calm		339-8
0600	0-58 N	177-33	" "	20	1011	82	77	84	8	5	170-7-3	86	Calm		339-8
0700	1-06 N	177-36	" "	20	1011	82	77	84	7	5	170-7-3	86	Calm		339-8
0800	1-13 N	177-39	" "	20	1011	84	76	76	7	5	170-7-3	86	Calm		339 8
0900	1-19 N	177-36	"	20	1013	85	74	73	8	5	170-7-3	86	Calm		090 9.5
1000	1-19 N	177-28	"	20	1013	85	74	73	8	5	170-7-2	86	Calm		090 9.5
1100	1-19 N	177-18	"	20	1014	86	77	77	8	5	170-7-3	86	Calm		090 9.5
1200	1-19 N	177-08	"	20	1014	86	77	77	8	5	170-7-3	86	Calm		090 9.5
1300	1-16 N	176-58	"	20	1011.5	86 78	75	70	7	4	170-7-3	86	9	225	090-9.5
1400	1-16 N	176-49	FEW CLDS	20	1011	86	75	70	1	1	170-7-3	87	6	210	090-9.5
1500	1-16	176-39	" "	20	1010	86	75	70	1	1	170-7-3	87	5	210	090-9.5
1600	1-16	176-29	" "	20	1010	86	75	70	1	1	170-7-3	87	4	220	090-9.5
1700	1-15	176-20	" "	20	1010	86	75	70	1	0	130-7-3	86	Airs		090-9.5
1800	1-15	176 11	" "	20	1010	86	75	70	2	0	130-7-5	86	Airs		090 9.5
1900	1-15	176 05	" "	20	1011	84	76	76	4	2	130-7-3	86	Airs		090 9.5
2000	1-07	176-08	" "	20	1011	84	76	76	3	2	130-7-3	86	Airs		200 9.5
2100	0-58	176-11	Clear	20	1012	84	76	76	0	0	130-7-3	86	Airs		200 9.5
2200	0-49	176-15	"	20	1012	84	76	76	0	0	130-7-3	86	"	Airs	200 9.5
2300	0-40	176-18	"	20	1012	84	76	76	0	0	130-7-3	86	"	"	200 9.5
2400	0-31	176-22	"	20	1012	84	76	76	0	0	130-7-3	86	"	"	200 9.5

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SAT. 18 SEPT. 1965

TIME	LAT	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL ~~WAVES~~	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	00°-21'N	176°-25'	CLEAR	20	1012.6	84 76	73	69	0	0	130-7-3	86	CALM ~~4~~	~~310~~	200- 9.5
0200	00°-16'N		FEW CLDS	20	1012	84	73	69	1	1	130-7-3	86	CALM		202- 9.5
0300	~~H~~ BAKER I.		" "	20	1012	84	73	69	1	1	130-7-3	86	CALM		LIE TO
0400	00-08N	176-26	" "	20	1011	84	73	69	1	1	130-7-3	86	CALM		120 9.5
0500	00-04N	176 19	" "	20	1011	84	73	69	1	0	130-7-3	86	Calm		120 9.5
0600	00-01N	176 12	" "	20	1011	84	73	67	2	1	130-7-3	86	Calm		120 9.5
0700	00-03S	176-05	" "	20	1011	86	74	67	3	1	130-3-3	86	Calm		120 9.5
0800	00-09S	176 00	" "	20	1012	86	74	67	2	1	130-3-3	86	Airs		180 9.5
0900	0-19S	175-54	PARTLY CLD	20	1013	87	75	70	8	7	170-5-3	86	Airs		180 9.5
1000	0-28S	175-54	"	20	1013	87	75	70	8	7	170-5-3	86	Airs		190 9.5
1100	0-37S	175-49	"	20	1014	87	75	70	8	7	170-5-3	86	Airs		195 9.5
1200	0-46S	175-50	"	20	1014	87	75	70	8	7	170-5-3	86	Airs		195 9.5
1300	0-57S	175-53	CLOUDY	20	1012.3	85 73	75	73	8	7	170-5-3	86	4	280	195 9.5
1400	1-07S	175-58	"	20	1011	86	75	70	8	7	170-5-3	85	AIRS		195- 9.5
1500	1-16S	175-58	O'CAST	15	1011	86	75	70	9	8	170-5-3	85	AIRS		195- 9.5
1600	1-26S	176-02	"	15	1010 84	85 78	75	73	9	8	170-5-3	85	AIRS		195- 9.5
1700	1-26S	176-11	"	20	1010	85	73	67	9	8	170-5-3	85	Airs		270 10
1800	1-26S	176-23	"	20	1011	84	73	69	9	8	170-5-3	85	Airs		270 10
1900	1-26S	176-32	"	20	1011	84	73	69	8	7	170-5-3	85	Airs		270 9
2000	1-26S	176-41	"	26	1011	84	73	69	8	6	170-5-3	85	Airs		270 8.5
2100	1-26S	176-49	Cloudy	20	1012	84	73	69	7	6	170-5-3	85	Airs		270 8.0
2200	1-26S	176-57	"	20	1013	84	73	69	7	6	170-5-3	85	Airs		270 8.0
2300	1-20S	177-03	"	20	1014	84	73	69	7	6	170-5-3	85	Airs		321 8.0
2400	1-14S	177 08	"	20	1014	84	73	69	7	6	170-5-3	85	Airs		321 8.0

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE SUNDAY 19 SEPT '65

TIME	LAT	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	1°-07S	177-13	O'CAST/RAIN	10	1013,3	83 78	76	80	10	10	170-5-3	85	AIRS		321. 8.0
0200	1-01S	177-18	" " RAIN	10	1012	81	77	87	10	10	170-5-3	85	AIRS		321 8.0
0300	0-55S	177-23	CLOUDY	20	1011	82	78	88	8	7	170-5-3	85	6	170	321 8.0
0400	0-49S	177-28	PT CLOUDY	20	1011	82	78	88	6	5	170-5-3	85	8	170	321 8.0
0500	0-43S	177-33	" "	20	1011	82	77	84	7	5	170-5-3	85	Airs		321 8.0
0600	0-36S	177-39	" "	20	1012	82	77	84	8	7	170-5-3	85	Airs		321 8
0700	0-31S	177-45	" "	20	1012	82	77	84	7	6	Conf	85	190	7	321 9
0800	0-23S	177-52	" "	20	1012	82	77	84	7	6	Conf	85	190	7	321 9.5
0900	0-17S	177-47	Few Clds	20	1013	85	73	69	1	1	315-5-3	85	290	10	321 9.5
1000	0-10S	177-53	"	20	1013	85	73	69	1	1	315-5-3	85	290	10	321 9.5
1100	0-02S	177-59	"	20	1013	85	73	69	1	1	315-5-3	85	290	10	321 9.5
1200	0-04N	178-00	"	20	1013	85	73	69	1	1	315-5-3	85	290	10	321 9.5
1300	0-08N	177-51	"	20	1014	88 80	74	64	1	1	315-5-3	86	230	10	062 9.5
1400	0-14N	177-39	" "	20	1011	88	74	64	4	3	315-5-3	86	230	10	062 9.5
1500	0-17N	177-30	PT CLDY	20	1011	88	74	64	6	5	315-5-3	86	230	7	062 9.5
1600	0-19N	177-23	" "	20	1011	87	77	73	7	6	315-4-3	86	210	1	062 9.5
1700	0-24N	177-16	Cldy w/rain	15	1011	83	78	84	9	7	Conf	86	10	235	058 9.5
1800	0-28N	177-10	" "	15	1011	83	78	84	9	7	Conf	86	10	235	058 9.5
1900	0-33N	177-02	" "	15	1012	82	78	88	8	7	Conf.	86	10	235	058 9.5
2000	0-38N	176-54	" "	15	1012	82	78	88	9	8	Conf.	86	10	235	058 9.5
2100	0-42N	176-46	" "	20	1012	82	78	88	7	6	Conf	86	10	230	055 - 9.5
2200	0-46N	176-38	" "	20	1012	82	78	88	5	4	Conf	86	10	220	015 - 9.5
2300	HOWLAND I.														
2400															

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE MON 20 SEPT 1965

TIME	LAT	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	HOWLAND I.		~~FEW CLDS~~	~~20~~	~~10~~										~~165 - 9.5~~
0200	00°-41'N	176°-38'	FEW CLDS	20	1011	82	77	84	2	1	CONF	85	10	200	165 - 9.5
0300	0-32N	176-35'	PTCLDY, RAIN	10	1011	81	77	87	5	4	CONF	85	19	220	165 - 9.5
0400	0-23N	176-32'	" "	10	1011	81	77	87	8	8	CONF	85	18	210	165 - 9.5
0500															
0600															
0700	12N	176 29													
0800	0-05N	176-26	Cld-Rain	20	1012	84	77	80	8	8	250-5-4	85	8	220	148 9.5
0900	0-03S	176-21	"	20	1012	84	77	80	8	8	250-5-4	85	2	220	148 9.5
1000	0-11S	176-16	"	20	1012	86	78	73	8	8	250-5-4	85	8	180	148 9.5
1100	0-20S	176-10	"	20	1013	86	78	73	8	8	250-5-4	85	8	180	148 9.5
1200	0-28S	176-05	"	20	1013	86	78	73	8	8	250-5-4	85	8	180	148 9.5
1300	0-36S	176-00	CLOUDY	20	1011.5	87 73	75	67	9	8	250-5-4	86	4	120	148 9.5
1400	0-45S	175-54	"	20	1011	87	75	67	10	9	250-5-4	87	3	120	148 9.5
1500	0-53S	175-49	"	20	1010	86	75	70	9	8	250-5-4	87	3	110	148 9.5
1600	01-02S	175-44	"	20	1010	86	75	70	8	7	250-5-4	87	3	110	148 9.5
1700	1 10S	175-50	"	20	1010	85	75	73	8	7	conf	87	0	—	148 9.5
1800	1-18S	175-44	"	20	1011	85	75	73	8	7	conf	87	0	—	148 9.5
1900	1-26S	175-39	"	20	1011	85	75	73	8	7	conf	87	0	—	148 9.5
2000	1-34S	175-24	"	20	1012	85	75	73	5	4	Conf	87	0	—	148 9.5
2100	1-42S	175-19	Few Clds	20	1013	85	75	73	1	0	Conf	87	Airs		148 9.5
2200	1-50S	175-15	"	20	1013	85	75	73	1	0	"	87	Aires		148 9.5
2300	1-58S	175-09	"	20	1013	85	75	73	1	0	"	87	Aires		148 - 9.5
2400	2-06S	175-04	"	20	1014	85	75	73	1	0	"	87	Aires		148 - 9.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE TUES 21 SEPT. 1965

TIME	LAT S	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	2 - 13	175 - 00	FEW CLDS	20	1011.4	85	75	73	1	1	CONF	87	3	090	148 - 9.5
0200	2 - 21	174 - 55	" "	20	1011	84	76	76	1	1	CONF	87	CALM		148 - 9.5
0300	2 - 30	174 - 50	" "	20	1011	84	74	73	1	1	CONF	87	CALM		148 - 9.5
0400	2 - 38	174 - 45	" "	20	1010	84	74	73	1	1	CONF	87	CALM		148 - 9.5
0500	2 - 49	174 - 38	" "	20	1010	83	73	73	2	1	Conf	87	Calm		148 - 10
0600	2 - 56	174 - 31	" "	20	1010	83	73	73	4	1	Conf	87	Calm		148 10
0700	3 - 05	174 - 26	" "	20	1011	83	73	73	5	3	Conf	87	Calm		148 10
0800	3 - 12	174 - 21	" "	20	1011	84	74	73	7	5	Conf	87	Calm		148 10
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE THURS 23 SEPT. 1965

TIME	LAT S	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400	3°-38	174-01	FEW CLDS	20	1011	88	76	67	2	1	140-7-3	86	8	125	115 - 8.0
1500	3°-41	173-54	FEW CLDS	20	1011	87	77	73	2	1	140-7-3	86	8	110	115 - 8.0
1600	3 - 45	173-47	" "	20	1011	88	76	67	3	2	14-7-3	86	7	110	115 - 8.0
1700	3-48	173-39	Ptly Cldy	20	1011	87	76	70	7	5	140-7-3	86	7	120	115 8
1800	3-52	173-33	" "	20	1011	86	75	70	6	4	140-7-3	86	7	120	115 8
1900	3-55	173-26	" "	20	1011	86	75	75	5	4	140-2-3	86	7	120	115 8
2000	3-58	173-19	" "	20	1011	85	75	73	5	4	140-2-3	86	7	110	115 8
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 29 Sept. 1965

TIME	LAT S	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL ~~WAVES~~	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700	4·28	172·08													
0800	4-25S	172-04 W	Few Clds	20	1013	86	78	77	2	1	110-5-2	86	10	110	063 10.0
0900	4-20 S	171-55 W	"	20	1013	88	77	71	1	1	100-5-3	86	12	100	063 10.0
1000	4-16S	171-46W	"	20	1013	88	77	71	1	1	100-5-3	86	12	100	063 10.0
1100	4-11S	171-37 W	"	20	1013	88	77	71	1	1	100-5-3	86	12	100	063 10.0
1200	4-07'S	171-28 W	"	20	1013	88	77	77	1	1	100-5-3	86	12	100	063 - 10.0
1300	4-06S	171-20W	PT CLDY	20	1011	88 80	~~68~~ 77	~~68~~ 71	4	3	100 5-3	86	12	110	063 - 10.0
1400	4°-00	171-11	FEW CLDS	20	1010	87	76	70	3	2	100-5-3	86	14	105	063 - 10.0
1500	3°-56	171-03	" "	20	1009	86	75	70	2	1	100-5-3	86	13	120	063 - 10.0
1600	3°-51	170-54	" "	20	1009	86	75	70	2	1	100-5-3	86	13	110	063 - 10.0
1700	3 - 45	170·46													
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (XRAY ~~WHISKEY~~); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63